Pioneer sound.vision.soul

Service Manual

ORDER NO.
ARP3264

PLASMA DISPLAY

PDP-505PU

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PDP-505PU		
KUC	○	AC120V	

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Remarks
PDP-505PE/WYVI	ARP3214	SAFETY INFORMATION, EXPLODED VIEWS AND PARTS LIST, BLOCK DIAGRAM, PCB PARTS LIST, ADJUSTMENT, IC INFORMATION etc.
	ARP3215	SCHEMATIC DIAGRAM and PCB CONNECTION DIAGRAM

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 → 56 x 10^1 → 561 ····· RD1/4PU 5 6 1 J
47k → 47 x 10^3 → 473 ····· RD1/4PU 4 7 3 J
0.5 → R50 ····· RN2H R 5 0 K
1 → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k → 562 x 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

PDP-505PU/KUC and PDP-505PE/WYVI are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			PDP-505PE WYVI	PDP-505PU KUC	
		PACKING SECTION			
P9 - 1	⚠	Power Cord	ADG1214	ADG1215	
P9 - 5		Code Case	AHC1064	Not used	
P9 - 7	NSP	Warranty Card	ARY1114	ARY1138	
P9 - 9		Pad (50T-L)	AHA2411	AHA2366	
P9 - 10		Pad (50T-R)	AHA2412	AHA2367	
P9 - 11		Pad (50B-L)	AHA2413	AHA2368	
P9 - 12		Pad (50B-R)	AHA2414	AHA2369	
P9 - 13		Under Carton (505)	AHD3326	Not used	
P9 - 13		Carton (50)	Not used	AHD3177	
P9 - 14		Upper Carton (505PU)	AHD3341	AHD3349	
P9 - 17		Speaker Cushion	AEB1384	Not used	
P9 - 19		Ferrite Core	ATX1039	Not used	
		REAR SECTION			
P19 - 3	NSP	Name Label (505PE)	AAL2568	Not used	
P19 - 3	NSP	Name Label (505PU)	Not used	AAL2660	
P19 - 5		Terminal Label (PE)	AAX2998	Not used	
P19 - 5		Terminal Label (PU)	Not used	AAX2997	
		Label (50)	AAX3145	Not used	

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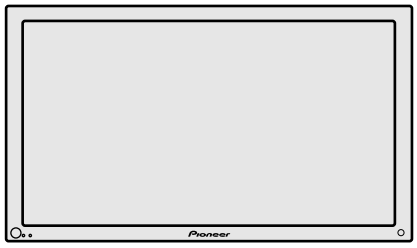
Service Manual



PDP-505PE

ORDER NO.
ARP3214

PLASMA DISPLAY

PDP-505PE
PRO-505PU

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-505PE	WYVI	AC220 - 240V	
PDP-505PE	WYVIXK	AC220 - 240V	
PRO-505PU	KUC	AC120V	

For details, refer to "Important symbols for good services" .

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SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

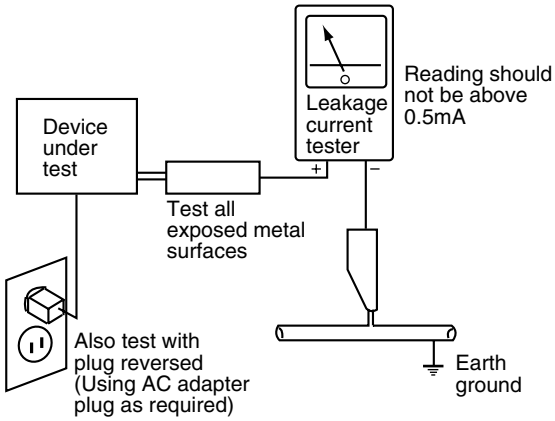
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - When the front case is removed, infrared ray is radiated and may disturb reception of the remote control unit.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ. Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

■Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. AC Power Cord
2. AC Inlet with Filter
3. Power Switch (S1)
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■High Voltage Generating Point

The places where voltage is 100V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

1. POWER SUPPLY Unit..... (223V)
2. 50 X DRIVE Assy ..... (–230V to 223V)
3. 50 Y DRIVE Assy ..... (353V)
4. 50 SCAN A Assy ..... (353V)
5. 50 SCAN B Assy ..... (353V)
6. X CONNECTOR AAssy ..... (–230V to 223V)
7. X CONNECTOR B Assy ..... (–230V to 223V)

Discharge the VSUS voltage, as shown below:

[Method for discharging the VSUS voltage]

1. Set DRF_SW on the DIGITAL VIDEO Assy to ON (Drive OFF status). *1, 2
2. Leave the switch at that position for about 20-30 seconds.
3. If the power is on, turn it off. Then return DRF_SW to the OFF position. *3

Notes

*1: You can also set the unit to "Drive OFF status" by sending the "DRF" RS232C command from the PC.
*2: DRF_SW can be switched whether the power is on or off.
*3: Power-down will occur if DRF_SW is set to OFF while the power is on. (See "7.1.6 Power on/off function for the large-signal system".)

: Part is Charged Section.
: Part is the High Voltage Generating Points other than the Charged Section.

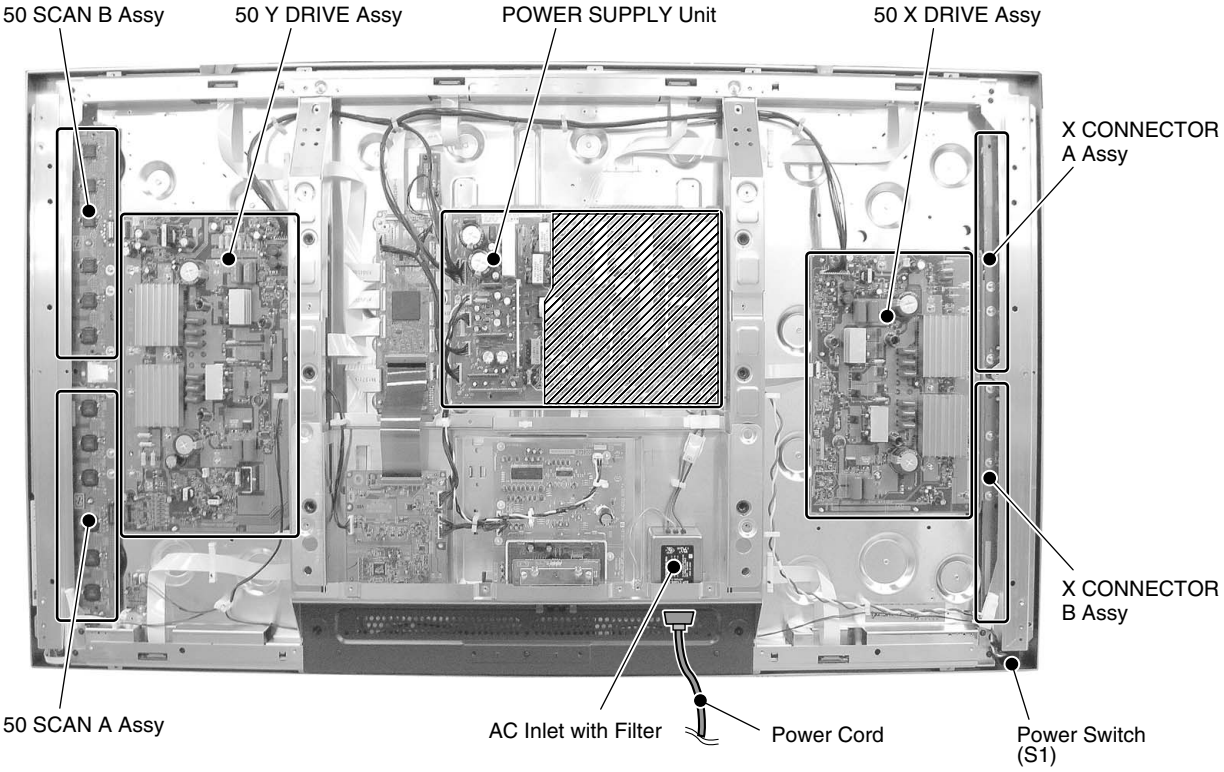


Fig.1 Charged Section and High Voltage Generating Point (Rear View)

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SPECIFICATIONS

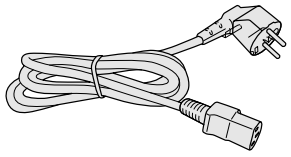
50" Plasma Display

Item	Model: PDP-505PE
Number of Pixels	1280 x 768 pixels
Audio Amplifier	13 W + 13 W (1kHz, 10%, 8Ω)
Surround System	SRS/FOCUS/TruBass
Power Requirement	220-240V AC,50/60Hz,352W (0.4W Standby)
Dimensions	1270(W) x 737 (H) x 93 (D) mm
Weight	32.8 kg (72.3 lbs.)

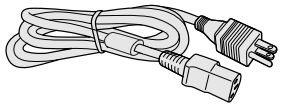
Item	Model: PRO-505PU
Number of Pixels	1280 x 768 pixels
Audio Amplifier	13 W + 13 W (1kHz, 10%, 8Ω)
Surround System	SRS/FOCUS/TruBass
Power Requirement	120V AC,60Hz,363W (0.2W Standby)
Dimensions	1270(W) x 737 (H) x 93 (D) mm (44 1/8(W)x 25 11/16(H)x 3 7/8(D)inches)
Weight	32.8 kg (72.3 lbs.)

• Accessories

Power Cord

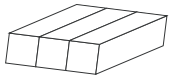


(PDP-505PE: ADG1214)



(PRO-505PU: ADG1215)

Speaker Cushion x1
(AEB1384)

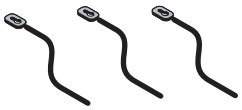


(Except PRO-505PU)

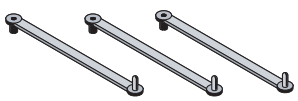
Wiping Cloth x1
(AED1208)

Binder Assy (AEC1908)

• Bead Bands x3



• Speed Clamp x3



Ferrite Core
(ATX1039)

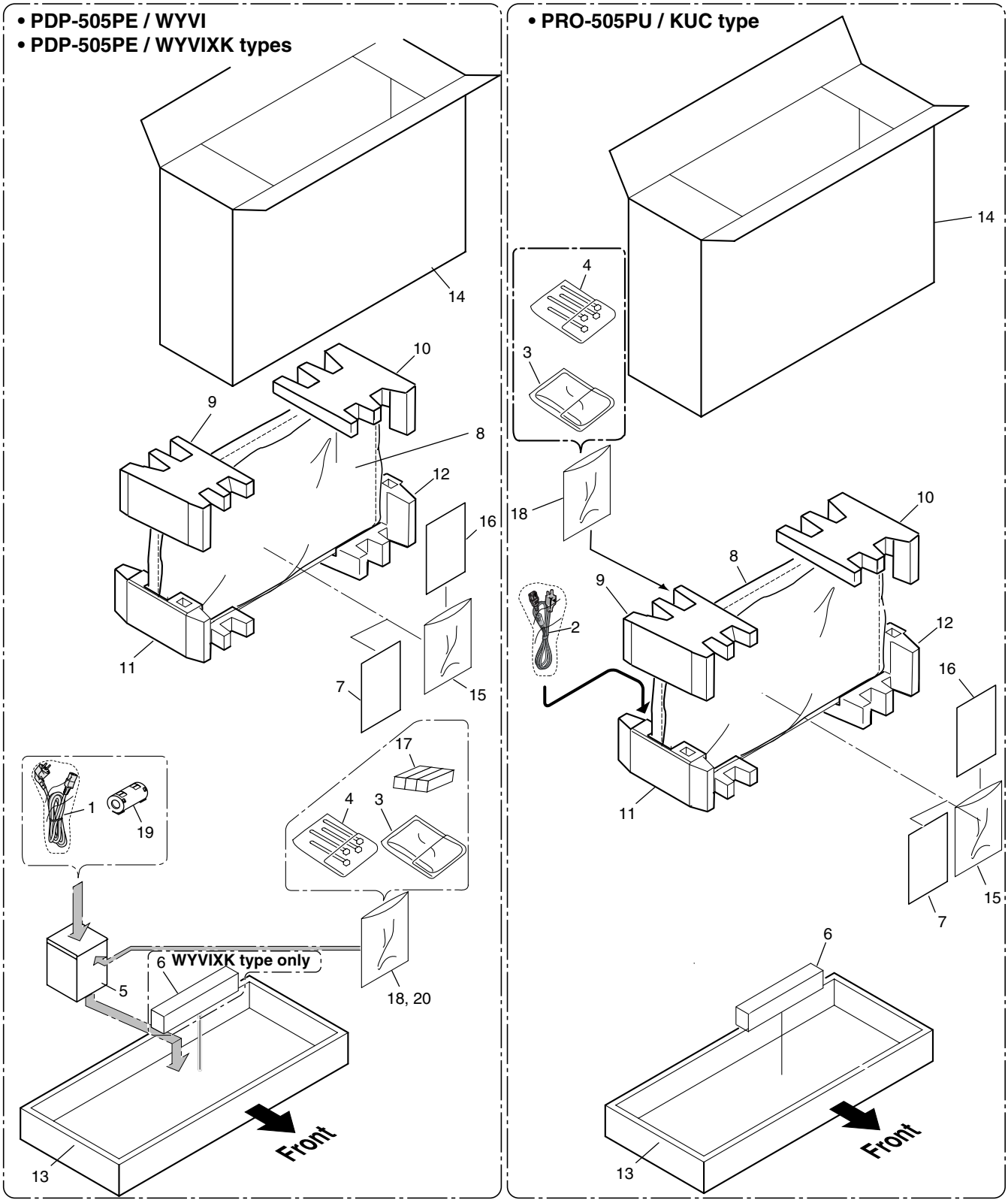
• Cable Tie

(PDP-505PE only)

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING Parts List

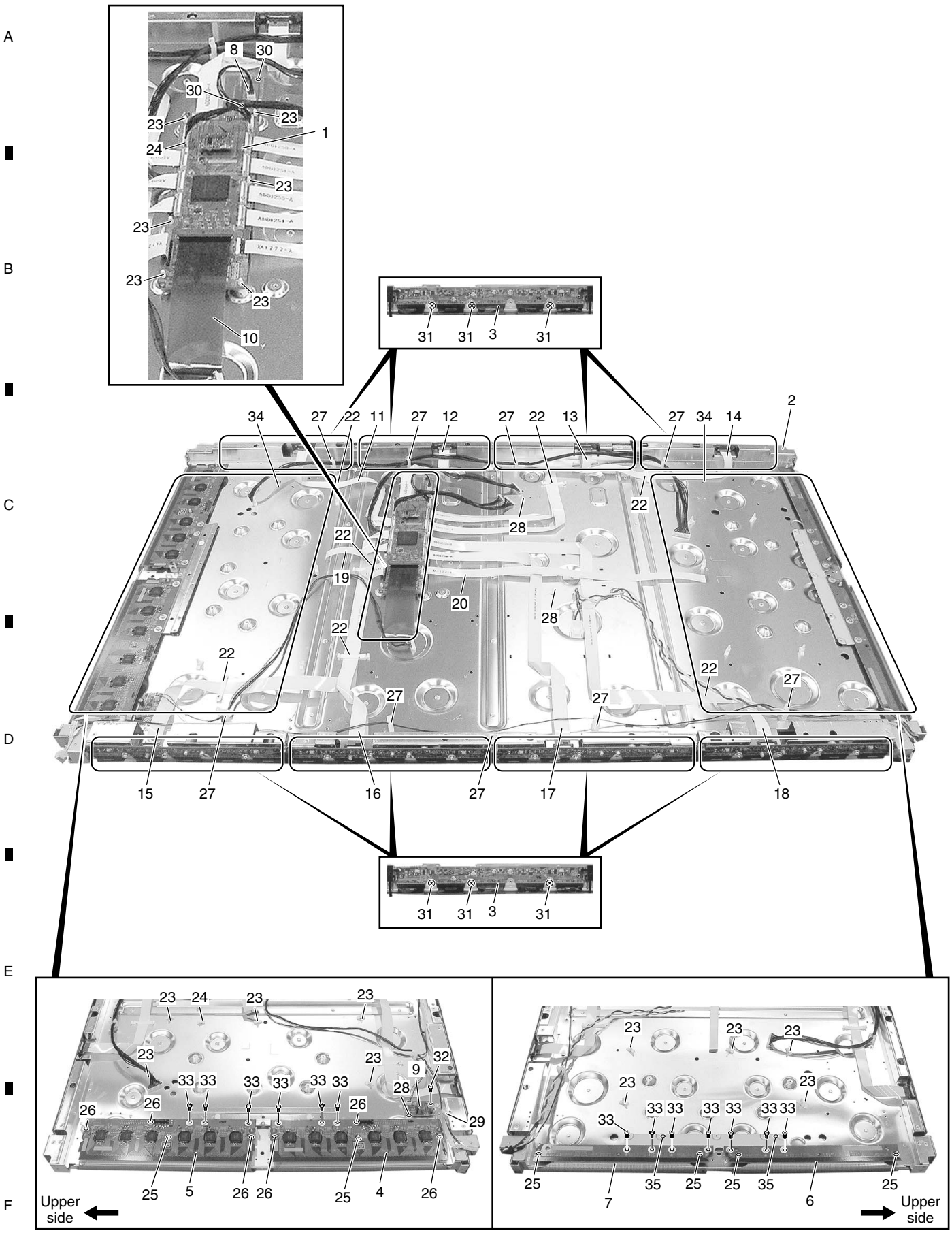
Mark	No.	Description	Part No.
⚠	1	Power Cord	See Contrast table (2)
⚠	2	Power Cord	See Contrast table (2)
	3	Wiping Cloth	AED1208
	4	Binder Assy	AEC1908
	5	Code Case	See Contrast table (2)
	6	Center Pad (50)	See Contrast table (2)
NSP	7	Warranty Card	See Contrast table (2)
	8	Mirror Mat	See Contrast table (2)
	9	Pad	See Contrast table (2)
	10	Pad	See Contrast table (2)
	11	Pad	See Contrast table (2)
	12	Pad	See Contrast table (2)
	13	Carton (50)	See Contrast table (2)
	14	Upper Carton	See Contrast table (2)
	15	Vinyl Bag	See Contrast table (2)
	16	Caution Card	ARM1232
	17	Speaker Cushion	See Contrast table (2)
	18	Vinyl Bag S	See Contrast table (2)
	19	Ferrite Core	See Contrast table (2)
	20	Poly Bag	See Contrast table (2)

(2) CONTRAST TABLE

PDP-505PE/WYVIXK, PRO-505PU/KUC and PDP-505PE/WYVI are constructed the same except for the following :

Mark	No.	Symbol and Description	PDP-505PE WYVI	PDP-505PE WYVIXK	PRO-505PU KUC
⚠	1	Power Cord	ADG1214	ADG1214	Not used
⚠	2	Power Cord	Not used	Not used	ADG1215
	5	Code Case	AHC1041	AHC1049	Not used
	6	Center Pad (50)	Not used	AHA2335	Not used
NSP	7	Warranty Card	ARY1114	ARY1114	ARY1134
	8	Mirror Mat	AHG1284	AHG1327	AHG1284
	9	Pad (50T-L)	AHA2366	Not used	AHA2366
	9	Pad (T-L)	Not used	AHA2381	Not used
	10	Pad (50T-R)	AHA2367	Not used	AHA2367
	10	Pad (T-R)	Not used	AHA2382	Not used
	11	Pad (50B-L)	AHA2368	Not used	AHA2368
	11	Pad (B-L)	Not used	AHA2383	Not used
	12	Pad (50B-R)	AHA2369	Not used	AHA2369
	12	Pad (B-R)	Not used	AHA2384	Not used
	13	Carton (50)	AHD3177	AHD3191	AHD3177
	14	Upper Carton (505PE)	AHD3265	Not used	Not used
	14	Upper Carton (50)	Not used	AHD3271	Not used
	14	Upper Carton (50EL)	Not used	Not used	AHD3281
	15	Vinyl Bag	AHG1340	Not used	AHG1340
	17	Speaker Cushion	AEB1384	AEB1384	Not used
	18	Vinyl Bag S	AHG1338	Not used	AHG1338
	19	Ferrite Core	ATX1039	ATX1039	Not used
	20	Poly Bag	Not used	AHG1326	Not used

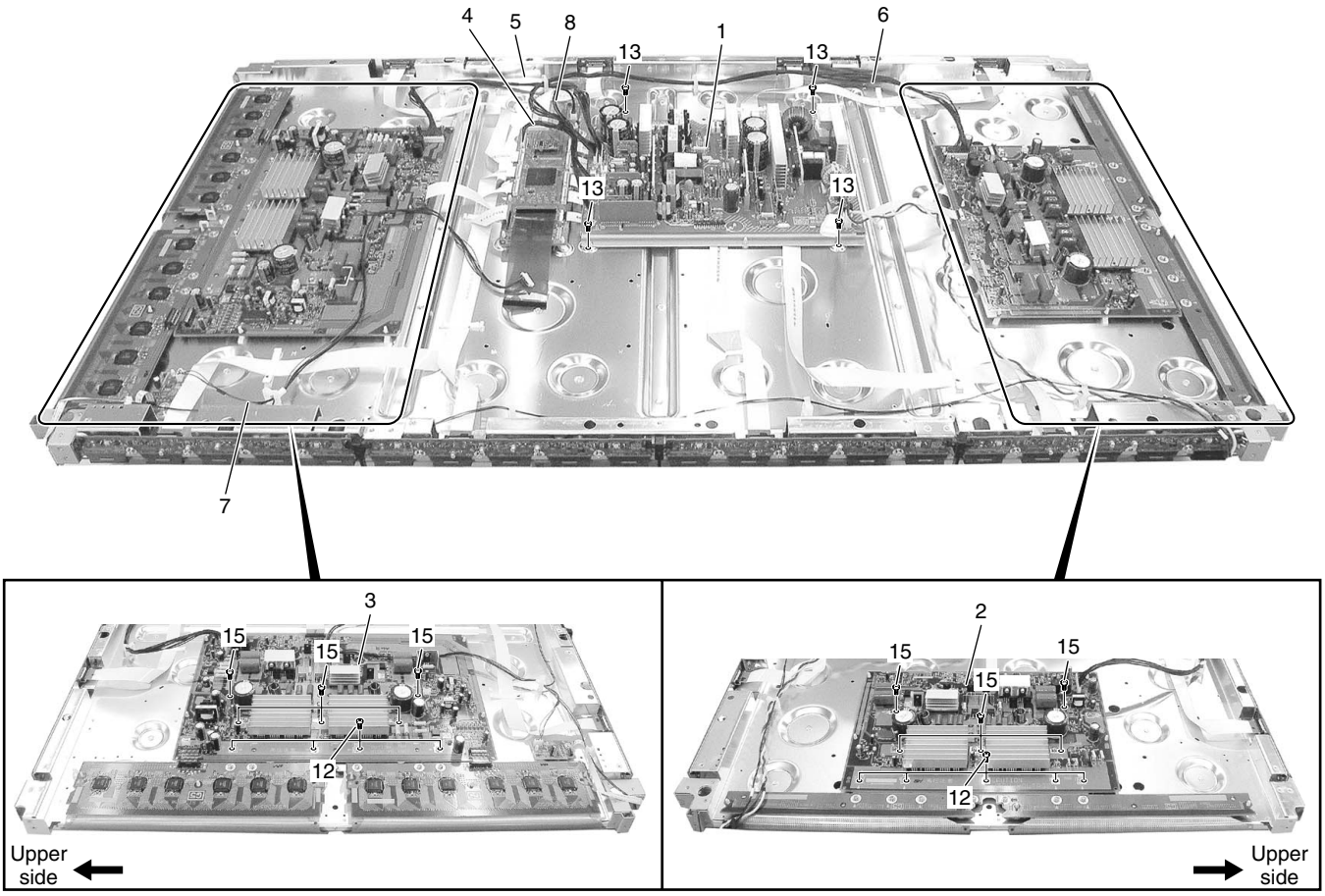
2.2 CHASSIS SECTION (1)

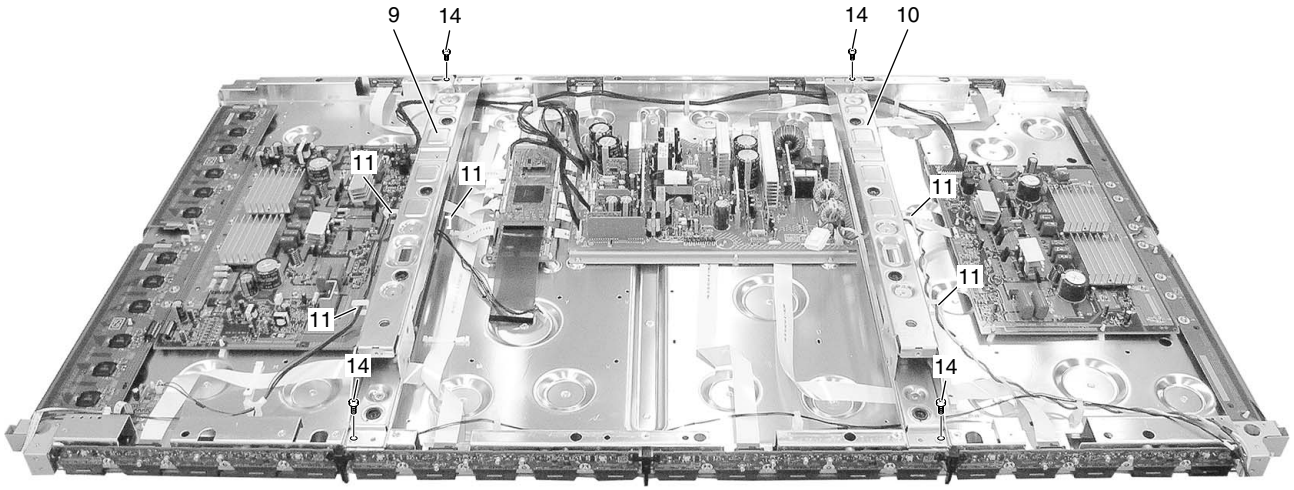


CHASSIS SECTION (1) parts List

Mark	No.	Description	Part No.
	1	DIGITAL VIDEO Assy	AWV2074
NSP	2	P. Chassis (505) Assy	AWU1092
NSP	3	50 ADDRESS Assy	AWZ6870
NSP	4	50 SCAN A Assy	AWZ6878
NSP	5	50 SCAN B Assy	AWZ6879
NSP	6	X CONNECTOR A Assy	AWZ6880
NSP	7	X CONNECTOR B Assy	AWZ6881
	8	PANEL SENSOR Assy	AWZ6872
	9	KEY CONTROL Assy	AWZ6844
	10	FPC (114P)	ADY1088
	11	Flexible Cable (J201)	ADD1248
	12	Flexible Cable (J202)	ADD1249
	13	Flexible Cable (J203)	ADD1250
	14	Flexible Cable (J204)	ADD1251
	15	Flexible Cable (J205)	ADD1252
	16	Flexible Cable (J206)	ADD1253
	17	Flexible Cable (J207)	ADD1254
	18	Flexible Cable (J208)	ADD1255
	19	Flexible Cable (J209)	ADD1270
	20	Flexible Cable (J210)	ADD1271
	21	•••••	
	22	Flat Clamp	AEC1879
	23	PCB Spacer	AEC1941
	24	PCB Support	AEC1938
	25	PCB Spacer	AEC1944
	26	PCB Support	AEC1958
	27	Wire Saddle	AEC1745
	28	PCB Spacer	AEC1947
	29	Wire Clip	AEC1948
	30	Nylon Rivet	AEC1671
	31	Screw	VBB30P080FNI
	32	Screw	ABZ30P060FTC
	33	Screw	PMB30P060FNI
	34	Rear corner label	AAX3081
	35	Card Spacer	AEC2013

2.3 CHASSIS SECTION (2)

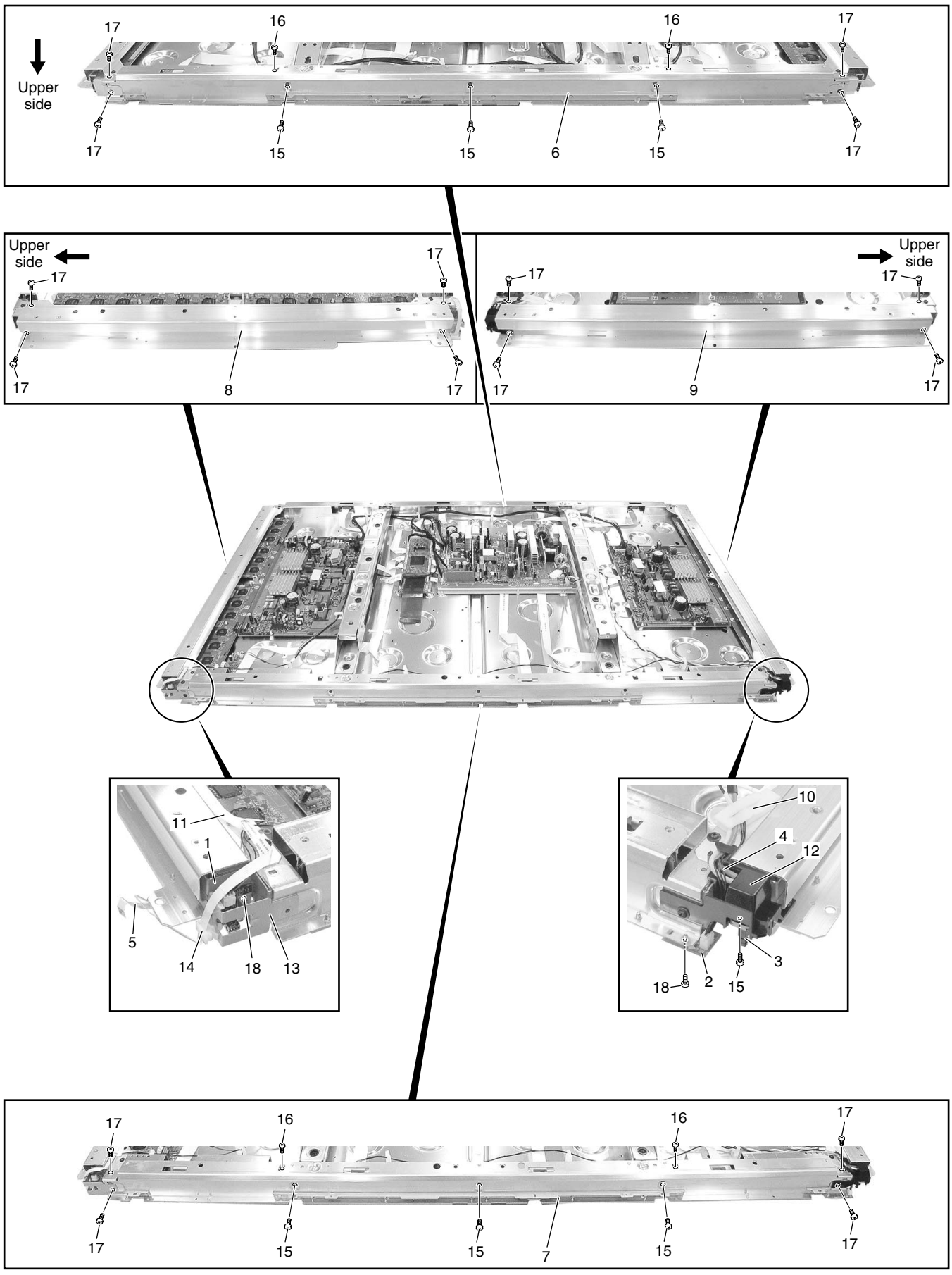




CHASSIS SECTION (2) parts List

Mark	No.	Description	Part No.
⚠	1	POWER SUPPLY Unit	AXY1085
	2	50 X DRIVE Assy	AWZ6877
	3	50 Y DRIVE Assy	AWV2082
	4	Wire A (J101)	ADX2945
	5	11P Housing Wire (J102)	ADX2950
	6	12P Housing Wire (J103)	ADX2951
	7	9P Housing Wire (J106)	ADX2949
	8	3P Housing Wire (J109)	ADX2948
	9	SUB Frame L Assy (50P)	ANG2638
	10	SUB Frame R Assy (50P)	ANG2561
	11	Wire Saddle	AEC1745
	12	Screw	PMB30P060FNI
	13	Screw	ABZ30P060FTC
	14	Screw	AMZ30P080FTC
	15	Screw	VBB30P080FNI

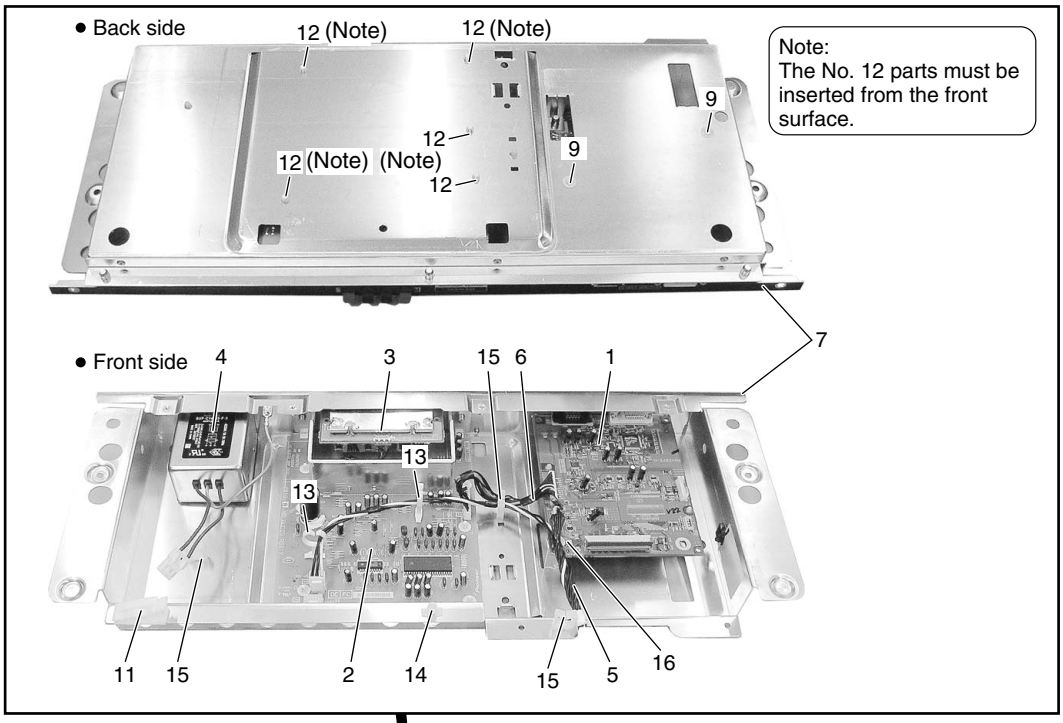
2.4 FRAME SECTION

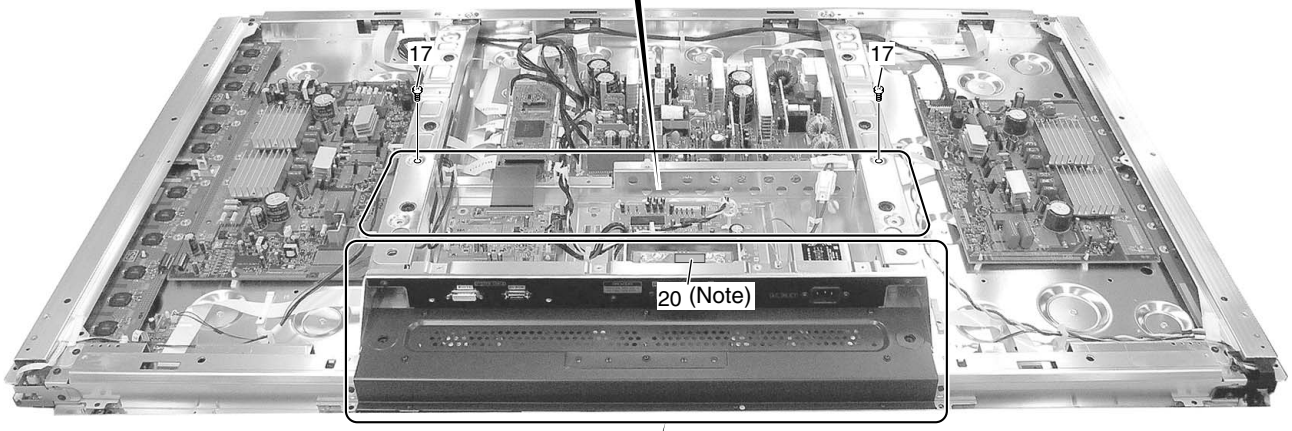


FRAME SECTION parts List

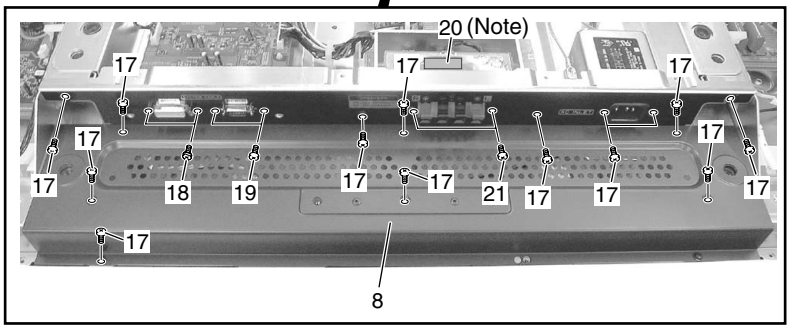
Mark	No.	Description	Part No.
	1	PANEL IR Assy	AWZ6845
	2	PANEL LED Assy	AWZ6842
⚠	3	Power Switch (S1)	ASG1092
	4	Housing Wire (50)(J110)	ADX2964
	5	Flexible Cable (J211)	ADD1225
	6	Front Chassis HU Assy (50)	ANA1792
	7	Front Chassis HD Assy (50)	ANA1793
	8	Front Chassis VL (50)	ANA1794
	9	Front Chassis VR (50)	ANA1795
	10	Clamp	AEC1884
	11	Flat Clamp	AEC1879
	12	Switch Holder	AMR3402
	13	IR Holder	ANG2665
	14	Wire Clip	AEC1948
	15	Screw	BPZ30P080FTB
	16	Screw	AMZ30P080FTC
	17	Screw	AMZ30P060FTB
	18	Screw	ABZ30P060FTC

2.5 MULTI BASE SECTION





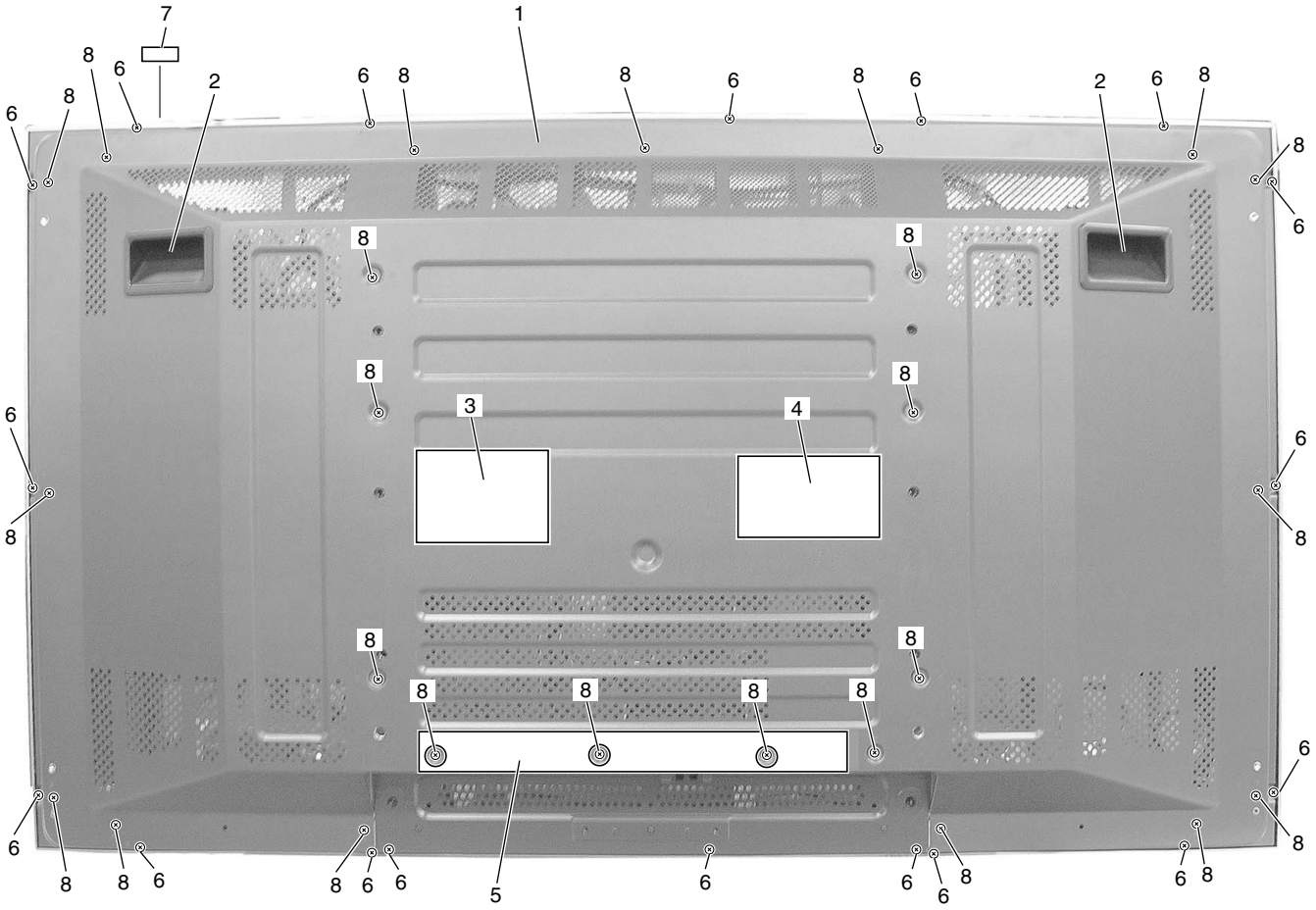
Note: When servicing, be sure to glue on the Gasket (AU) and make sure that they won't peel off.



MULTI BASE SECTION parts List

Mark	No.	Description	Part No.
	1	PANEL IF Assy	AWZ6841
	2	HD AUDIO AMP Assy	AWZ6863
	3	HD SP TERMINAL Assy	AWZ6864
⚠	4	AC Inlet (CN1)	AKP1263
	5	3P/8P Housing Wire (J104)	ADX2922
	6	13P Housing Wire (J105)	ADX2947
	7	Multi Base (P) Assy	ANA1786
	8	Under Cover Assy	ANG2589
	9	Locking Card Spacer V0	AEC2005
	10	•••••	
	11	Clamp	AEC1884
	12	PCB Spacer	AEC1941
	13	HL 18	AEC1980
	14	SB Spacer	AEC2002
NSP	15	Wire Saddle	AEC1745
	16	Screw	PMB30P060FNI
	17	Screw	AMZ30P060FTB
	18	Hexagon Headed Screw	BBA1051
	19	Screw	PMZ26P060FTB
	20	Gasket (AU)	ANK1745
	21	Screw	BPZ30P080FTB

2.6 REAR SECTION



REAR SECTION parts List

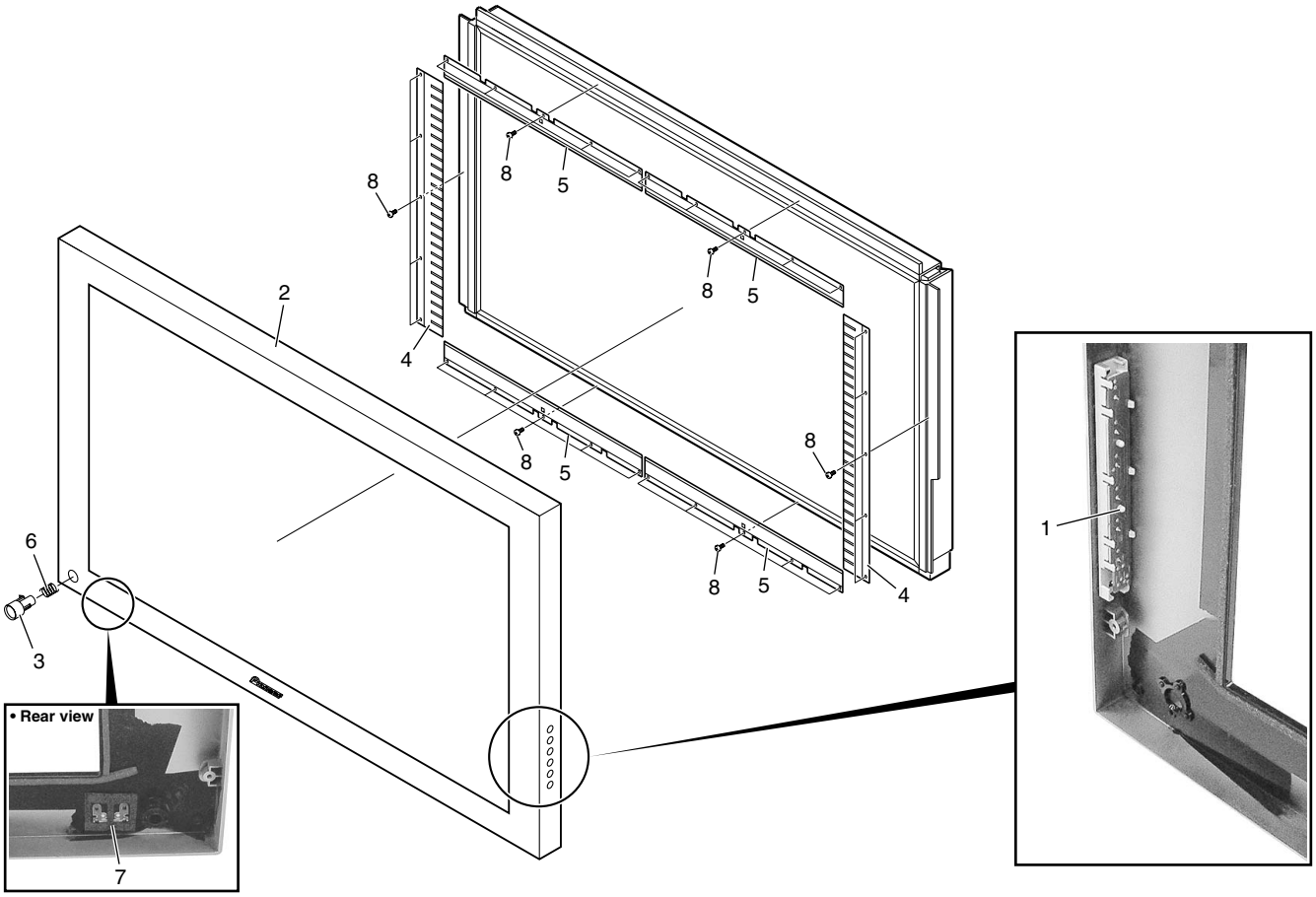
Mark	No.	Description	Part No.
	1	Rear Case (50P)	ANE1626
	2	Inner Grip Assy	AMR3434
NSP	3	Name Label	See Contrast table (2)
	4	Volt caution Label	See Contrast table (2)
	5	Terminal Label	See Contrast table (2)
	6	Screw	ABZ30P100FTB
	7	Serial Sheet	AAX3143
	8	Screw	AMZ30P060FTB

(2) CONTRAST TABLE

PDP-505PE/WYVIXK, PRO-505PU/KUC and PDP-505PE/WYVI are constructed the same except for the following :

Mark	No.	Symbol and Description	PDP-505PE WYVI	PDP-505PE WYVIXK	PRO-505PU KUC
NSP	3	Name Label	AAL2568	AAL2580	AAL2570
	4	Volt Caution Label	AAX3117	AAX3005	AAX3117
	5	Terminal Label	AAX2998	AAX3006	AAX2997

2.7 FRONT SECTION



FRONT SECTION parts List

Mark	No.	Description	Part No.
	1	PANEL KEY Assy	AWZ6843
	2	Front Case Assy	See Contrast table (2)
	3	Power Button	AAD4127
NSP	4	Panel Holder V (50)	ANG2663
	5	Panel Holder H Assy 50	See Contrast table (2)
	6	Coil Spring	ABH1114
	7	Blind Cushion	AEB1383
	8	Screw	ABZ30P060FTC

(2) CONTRAST TABLE

PDP-505PE/WYVIXK, PRO-505PU/KUC and PDP-505PE/WYVI are constructed the same except for the following :

Mark	No.	Symbol and Description	PDP-505PE WYVI	PDP-505PE WYVIXK	PRO-505PU KUC
	2	Front Case Assy (50PE)	AMB2834	AMB2834	Not used
	2	Front Case Assy (50EL)	Not used	Not used	AMB2836
	5	Panel Holder H Assy 50	ANG2678	Not used	ANG2678
	5	Panel Holder H	Not used	ANG2662	Not used
	5	Gasket	Not used	ANK1740	Not used

2.8 PANEL CHASSIS (50) Assy (AWU1092)

PANEL CHASSIS (50) Assy (AWU1092) parts List

Mark	No.	Description	Part No.
NSP		1..50 ADDRESS Assy	AWV2080
NSP		2..50 ADDRESS Assy	AWZ6870
NSP		1..50 SCAN Assy	AWV2083
NSP		2..50 SCAN A Assy	AWZ6878
NSP		2..50 SCAN B Assy	AWZ6879
NSP		2..X CONNECTOR A Assy	AWZ6880
NSP		2..X CONNECTOR B Assy	AWZ6881
NSP		P. Panel (50LC) Assy	AWU1103
NSP		Adress Module (IC1-IC40)	AXF1129
NSP		FPC (50XGA-X)	ADY1084
NSP		FPC (50XGA-Y)	ADY1085
NSP		Chassis Assy (505)	ANA1803
		PCB Spacer	AEC1944
		PCB Support	AEC1958
		Edge Card Spacer	AEC1998
		Rivet (Plastic)	AMR1066
		FC Spacer	AMR3370
NSP		Adhesive	ZBA-KE3424S
NSP		Lotion	ZLX-AP7
NSP		Tape	ZTA-8101-12
NSP		Double Faced Tape	ZTB-5015-18
NSP		Silicone Rubber	ZTC-EM7KB0R85T-15W
NSP		Tape	ZTC-POLYCA-20
NSP		Tape	ZTC-900UL-15
NSP		Silicone Rubber	ZTX-HC20-15
NSP		Silicone Rubber	ZTX-HC50-15
NSP		Wiping Cloth	ZTX-MX100-13
NSP		Film	ZTX-2102Y35-2R5
NSP		Film	ZTX-2102Y45-5

2.9 PDP SERVICE Assy 505P (AWU1097)

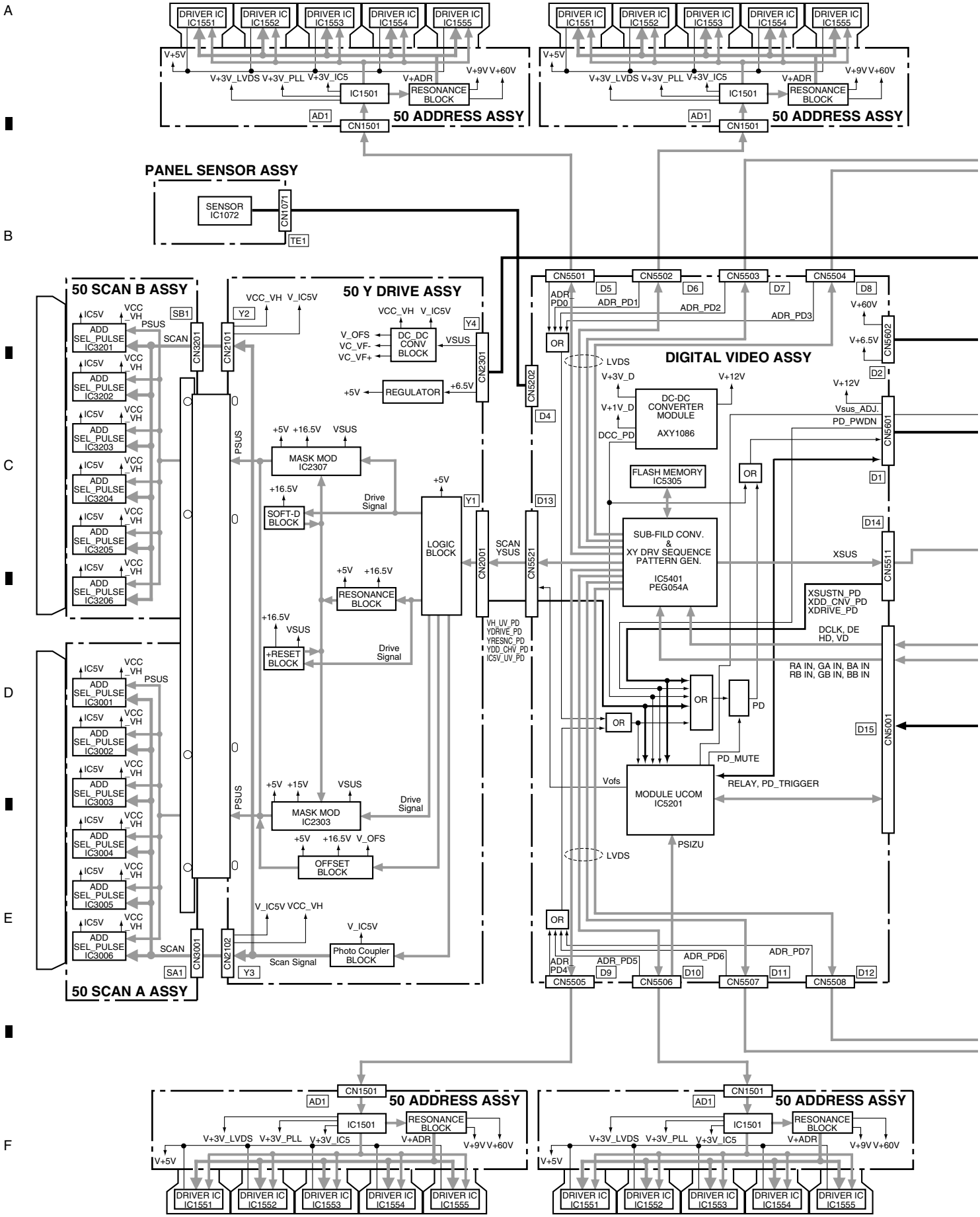
PDP SERVICE Assy 505P (AWU1097) parts List

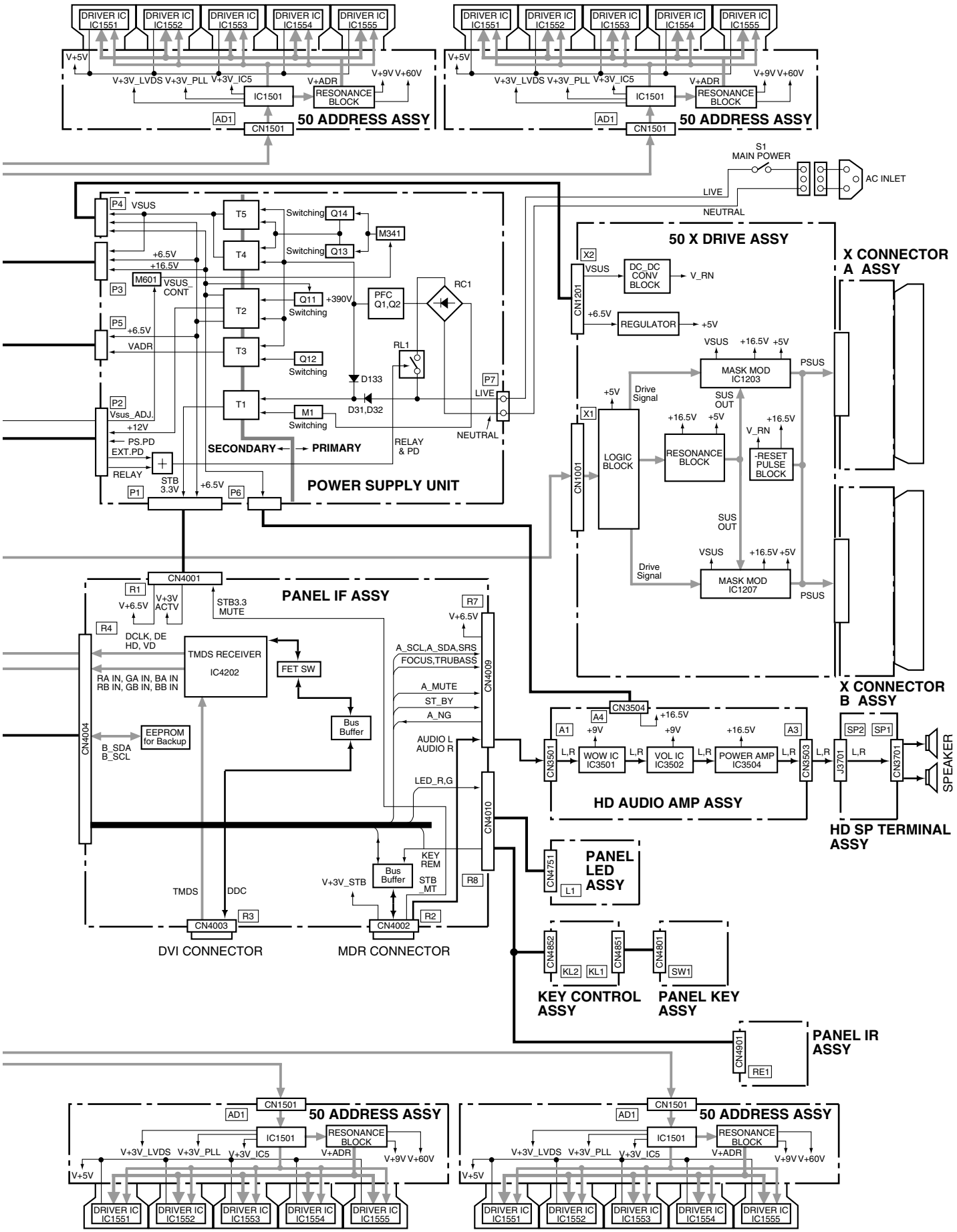
MarkNo.	Description	Part No.
NSP	1..P.Chassis (505) Assy	AWU1092
	1..Front Chassis HU Assy (50)	ANA1792
	1..Front Chassis HD Assy (50)	ANA1793
	1..Front Chassis VL (50)	ANA1794
	1..Front Chassis VR (50)	ANA1795
	1..Sub Frame L Assy (50P)	ANG2638
	1..Sub Frame R Assy (50P)	ANG2561
	1..Wire Saddle	AEC1745
	1..PCB Support	AEC1938
	1..PCB Spacer	AEC1941
	1..PCB Spacer	AEC1947
	1..Wire Clip	AEC1948
	1..Card Spacer	AEC2013
	1..Caution Label	AAX3031
	1..Drive Voltage Label	ARW1097
	1..Screw	ABZ30P100FTB
	1..Screw	AMZ30P060FTB
	1..Screw	AMZ30P080FTC
	1..Screw	VBB30P080FNI
	1..Screw	BPZ30P080FTB
NSP	1..Front Case Assy (50SVC)	AMB2849
	2..Panel Cushion H (50)	AED1257
	2..Panel Cushion V (50)	AED1258
NSP	2..Front Case (50P)	AMB2823
	1..Rear Case (50P)	ANE1614
NSP	1..Vinyl Pouch	AHG-195
	1..Pad (50T-L)	AHA2366
	1..Pad (50T-R)	AHA2367
	1..Pad (50B-L)	AHA2368
	1..Pad (50B-R)	AHA2369
	1..Carton(50)	AHD3177
	1..Upper Carton (505SVC)	AHD3290
	1..Protect Sheet	AHG1331
	1..Rear corner label(15)	AAX3081

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

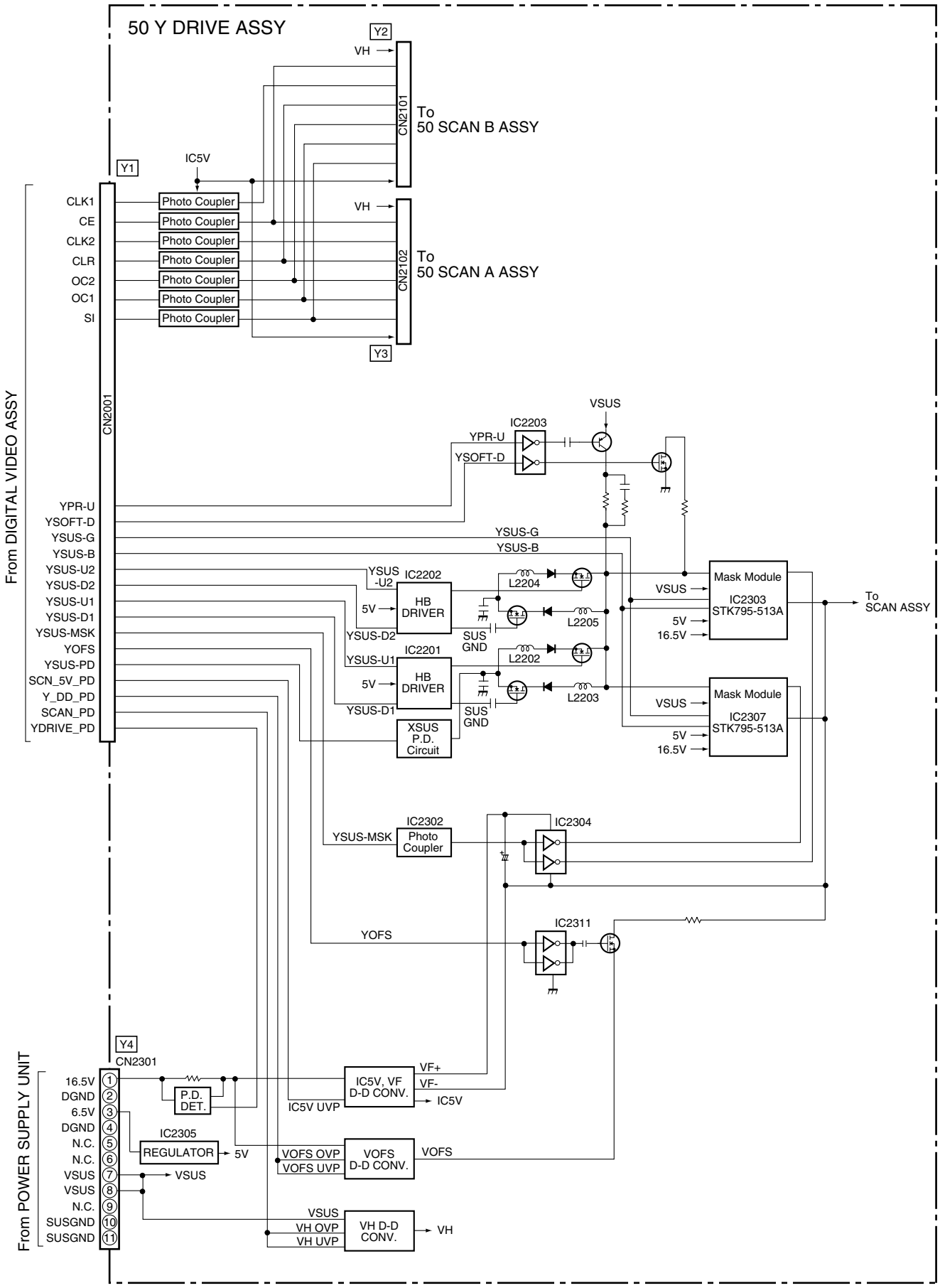
3.1.1 OVERALL BLOCK DIAGRAM




DRIVER IC IC1551
DRIVER IC IC1552
DRIVER IC IC1553
DRIVER IC IC1554
DRIVER IC IC1555
V+5V
V+3V_LVDS V+3V_PLL V+3V_IC5
V+ADR
V+9V V+60V
IC1501
RESONANCE BLOCK
AD1
CN1501
50 ADDRESS ASSY
S1
MAIN POWER
AC INLET
LIVE
NEUTRAL
P4 VSUS
T5
T4
T2
T3
T1
Switching Q14
Switching Q13
Switching Q11
Switching Q12
Switching M1
M341
+6.5V
+16.5V
M601 VSUS_CONT
P3
P5 +6.5V
VADR
P2 Vsus_ADJ.
+12V
PS.PD
EXT.PD
RELAY
STB 3.3V
P1
P6
+390V
PFC Q1,Q2
RC1
RL1
D133
D31,D32
P7 LIVE
NEUTRAL
SECONDARY
PRIMARY
RELAY & PD
POWER SUPPLY UNIT
50 X DRIVE ASSY
X2
VSUS
DC_DC CONV BLOCK
V_RN
CN1201
+6.5V
REGULATOR
+5V
X CONNECTOR A ASSY
VSUS +16.5V +5V
MASK MOD IC1203
PSUS
+5V
Drive Signal
SUS OUT
X1
CN1001
LOGIC BLOCK
+16.5V +5V
RESONANCE BLOCK
-RESET PULSE BLOCK
+16.5V
V_RN
SUS OUT
VSUS +16.5V +5V
Drive Signal
MASK MOD IC1207
PSUS
X CONNECTOR B ASSY
CN4001
PANEL IF ASSY
R1
V+6.5V
V+3V ACTV
STB3.3 MUTE
R4
DCLK, DE
HD, VD
TMDS RECEIVER IC4202
FET SW
RA IN, GA IN, BA IN
RB IN, GB IN, BB IN
CN4004
EEPROM for Backup
B_SDA
B_SCL
Bus Buffer
R7
V+6.5V
A_SCL,A_SDA,SRS
FOCUS,TRUBASS
A_MUTE
ST_BY
A_NG
AUDIO L
AUDIO R
CN4009
LED_R,G
CN4010
KEY REM
STB_MT
Bus Buffer
V+3V_STB
R8
TMDS
DDC
R3
R2
CN4003
CN4002
DVI CONNECTOR
MDR CONNECTOR
CN3504
A4
+16.5V
A1
+9V
L,R
WOW IC IC3501
VOL IC IC3502
POWER AMP IC3504
A3
CN3501
CN3503
J3701
SP2
SP1
CN3701
SPEAKER
HD AUDIO AMP ASSY
HD SP TERMINAL ASSY
CN4751
L1
PANEL LED ASSY
CN4852
CN4851
CN4801
KL2
KL1
SW1
KEY CONTROL ASSY
PANEL KEY ASSY
CN4901
RE1
PANEL IR ASSY

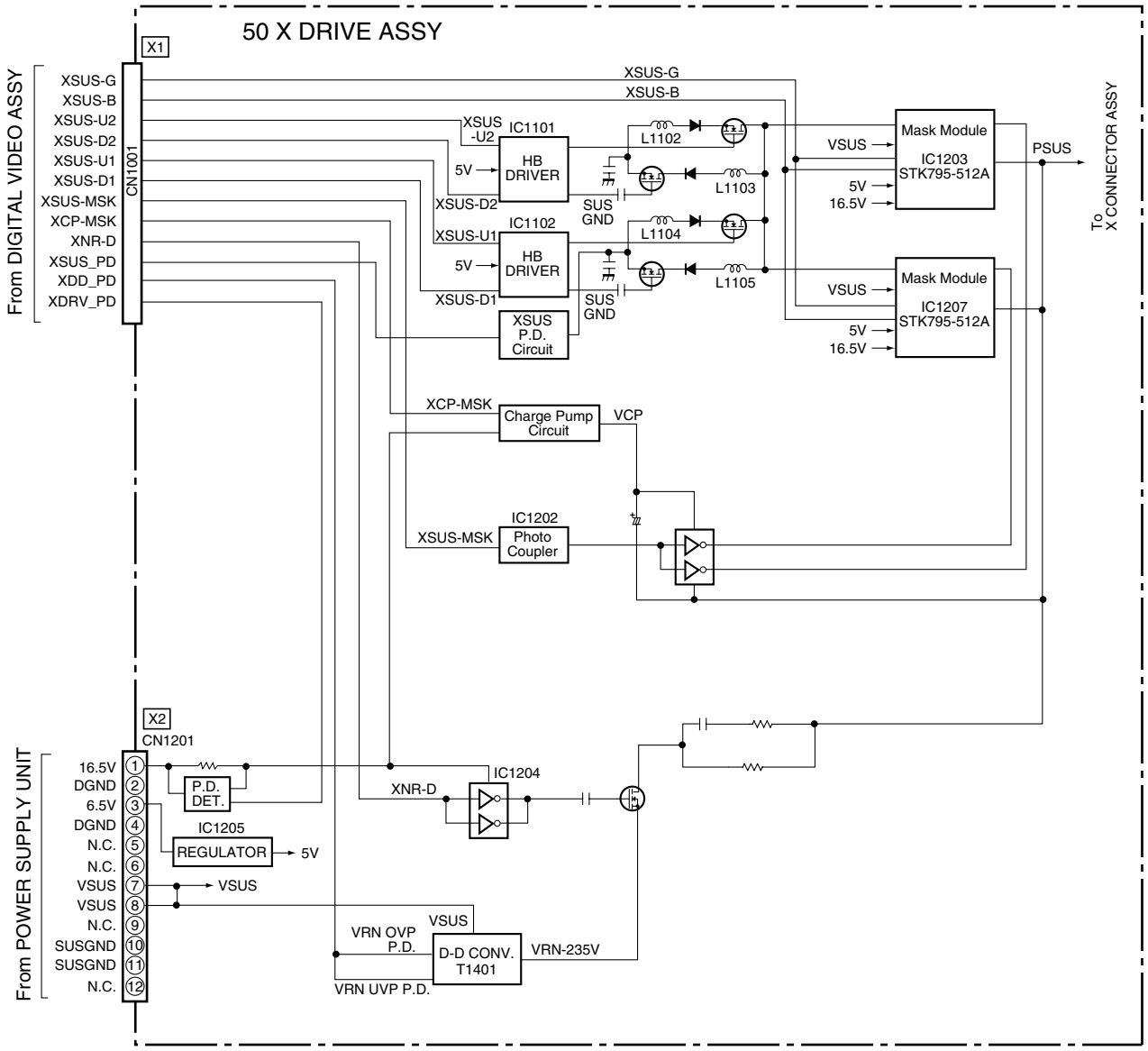
3.1.2 50 Y DRIVE ASSY

• Block Diagram



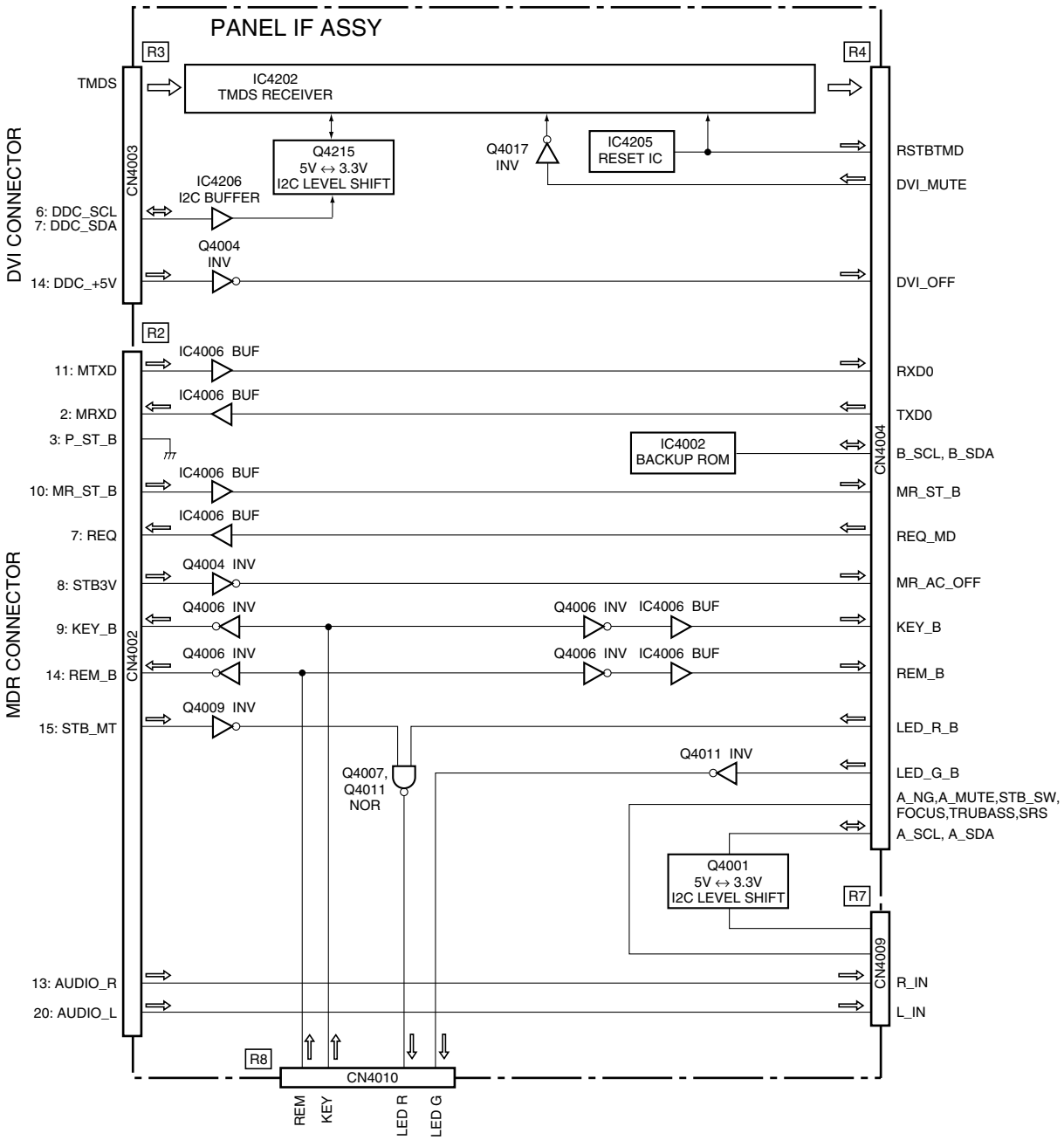
3.1.3 50 X DRIVE ASSY

• Block Diagram



3.1.4 PANEL IF ASSY

• Block Diagram



• Voltages

CN4001 (R1) < ⇔ POWER SUPPLY UNIT >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	6.5V	I	+6.5V power supply	+6.8VDC
2	6.5V	I	+6.5V power supply	+6.8VDC
3	Vcc_GND	–	GND	
4	Vcc_GND	–	GND	
5	STB3.3V	I	Power supply +3.3V input of module UCOM at panel side	+3.3VDC
6	STB_GND	–	GND	
7	STB3.3MUTE	O	Standby control (+3.3V mute)	+3.3 VDC
8	AC_DET	I	Primary power supply (AC) state input at panel side	+3.0VDC

CN4002 (R2) < ⇔ MEDIA RECEIVER >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	MR_ST_B	I	Connection state detecting signal with MR	0VDC
2	MRXD	O	UART communication transmission data with the main UCOM (external PC) at MR side	0-3.3V amplitude square wave
3	P_ST_B	O	Connection state output for the MR	0VDC
4	ACT3V	O	Power supply +3.3V output of module UCOM at panel side	+3.3VDC
5	AC_OFF	O	Primary power supply (AC) state output at panel side	0VDC
6	GND	–	GND	
7	REQ	O	Communication request to the main UCOM (external PC) at the MR	0-3.3V amplitude square wave
8	STB3V	I	Standby power supply (+3.3V) input from the MR	+3.3VDC
9	KEY_B	O	Function key code signal output at panel side	0-3.3V amplitude square wave (at key operation)
10	MR_ST_B'	I	Connection state detecting signal with the MR	0VDC
11	MTXD	I	UART communication receive data with the main UCOM (external PC) at the MR side	0-3.3V amplitude square wave
12	GND	–	GND	
13	AUDIO_R	I	R ch audio signal input	Audio R signal
14	REM_B	O	Remote control code signal output	0-3.3V amplitude square wave (at remocon code transmission)
15	STB_MT	I	Standby control input	0VDC
16	GND	–	GND	
17	NC	–	Not connected	–
18	FIELD	I	FIELD control signal	0VDC
19	GND	–	GND	
20	AUDIO_L	I	L ch audio signal input	Audio L signal

CN4003 (R3) < ⇔ MEDIA RECEIVER >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	RX2-	I	DVI signal	DVI differential signal (-)
2	RX2+	I	DVI signal	DVI differential signal (+)
3	GND	–	GND	
4	N.C	–	Not connected	–
5	N.C	–	Not connected	–
6	DDC_SCL	I	I2C signal for DDC	0-5V amplitude square wave
7	DDC_SDA	I	I2C signal for DDC	0-5V amplitude square wave
8	N.C	–	Not connected	–
9	RX1-	I	DVI signal	DVI differential signal (-)
10	RX1+	I	DVI signal	DVI differential signal (+)
11	GND	–	GND	
12	N.C	–	Not connected	–
13	N.C	–	Not connected	–
14	DDC_+5V	I	I2C power supply for DDC	+5VDC
15	GND	–	GND	
16	HPD	O	Hot plug detection	+5VDC
17	RX0-	I	DVI signal	DVI differential signal (-)
18	RX0+	I	DVI signal	DVI differential signal (+)
19	GND	–	GND	
20	N.C	–	Not connected	–
21	N.C	–	Not connected	–

• Voltages

CN4003 (R3) < ⇔ MEDIA RECEIVER >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
22	GND	–	GND	
23	RXC+	I	DVI signal	DVI differential signal (-)
24	RXC-	I	DVI signal	DVI differential signal (+)

CN4009 (R7) < ⇔ HD AUDIO AMP ASSY >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	A_NG	I	Abnormal detecting signal of the audio block	+3.3V DC
2	V+6.5	O	+6.5V power supply	+6.8V DC
3	GNDA	–	GND	
4	L_IN	O	L ch audio signal	Audio L signal
5	GNDA	–	GND	
6	R_IN	O	R ch audio signal	Audio R signal
7	ST_BY	O	Standby signal of the audio block	+3.3V DC
8	A_MUTE	O	Audio mute signal input	0V DC
9	SCL	O	I2C control signal for audio	0-3.3V amplitude square wave
10	SDA	O	I2C control signal for audio	0-3.3V amplitude square wave
11	FOCUS	O	Focus function control signal	+3.3V DC
12	SRS	O	SRS function control signal	+3.3V DC
13	TRUBASS	O	TRUBASS function control signal	+3.3V DC

CN4010 (R8) < ⇔ PANEL LED ASSY, PANEL IR ASSY, KEY CONTROL ASSY >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	LED_G	O	LED control (green)	+2.1VDC
2	LED_R	O	LED control (red)	0VDC
3	AC_OFF	O	Primary power supply (AC) state output at the panel side	0VDC
4	STB3V	O	+3.3V power supply	+3.3V DC
5	STBGND	–	GND	
6	REM	I	Remote control code signal input	0-3.3V amplitude square wave (at remocon code transmission)
7	STB+3V	O	+3.3V power supply	+3.3V DC
8	KEY	I	Function key code signal input at the panel side	0-3.3V amplitude square wave (at key operation)
9	STBGND	–	GND	

CN4801 (SW1) < ⇔ KEY CONTROL ASSY >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	STBGND	–	GND	0V DC
2	G1	O	Key scan signal	0V DC
3	G0	O	Key scan signal	0V DC
4	D5	I	Key scan signal	+3.3V DC
5	D6	I	Key scan signal	+3.3V DC
6	D7	I	Key scan signal	+3.3V DC

• Voltages

CN4004 (R4) < ⇔ DIGITAL VIDEO ASSY > (1/2)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	GND	–	GND	–
2	GND	–	GND	–
3	GND	–	GND	–
4	GND	–	GND	–
5	BA0	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
6	BA1	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
7	BA2	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
8	BA3	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
9	BA4	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
10	BA5	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
11	BA6	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
12	BA7	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
13	GND	–	GND	–
14	GND	–	GND	–
15	GND	–	GND	–
16	GND	–	GND	–
17	GA0	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
18	GA1	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
19	GA2	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
20	GA3	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
21	GA4	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
22	GA5	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
23	GA6	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
24	GA7	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
25	GND	–	GND	–
26	GND	–	GND	–
27	GND	–	GND	–
28	GND	–	GND	–
29	RA0	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
30	RA1	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
31	RA2	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
32	RA3	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
33	RA4	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
34	RA5	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
35	RA6	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
36	RA7	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
37	GND\	–	GND	–
38	DCLK	O	Synchronous signal output (clock)	0-3.3V amplitude square wave (42.5MHz)
39	GND	–	GND	–
40	DEI	O	Synchronous signal output (data enable)	0-3.3V amplitude square wave (positive polarity)
41	HDI	O	Synchronous signal output (Horizontal sync.)	0-3.3V amplitude square wave (negative polarity)
42	VDI	O	Synchronous signal output (Vertical sync.)	0-3.3V amplitude square wave (negative polarity)
43	FIELD	O	FIELD control signal	0V DC
44	APL_DT		Not connected	–
45	GND	–	GND	–
46	GND	–	GND	–
47	BB0	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
48	BB1	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
49	BB2	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
50	BB3	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
51	BB4	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
52	BB5	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
53	BB6	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
54	BB7	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
55	GND	–	GND	–
56	GND	–	GND	–
57	GND	–	GND	–
58	GND	–	GND	–

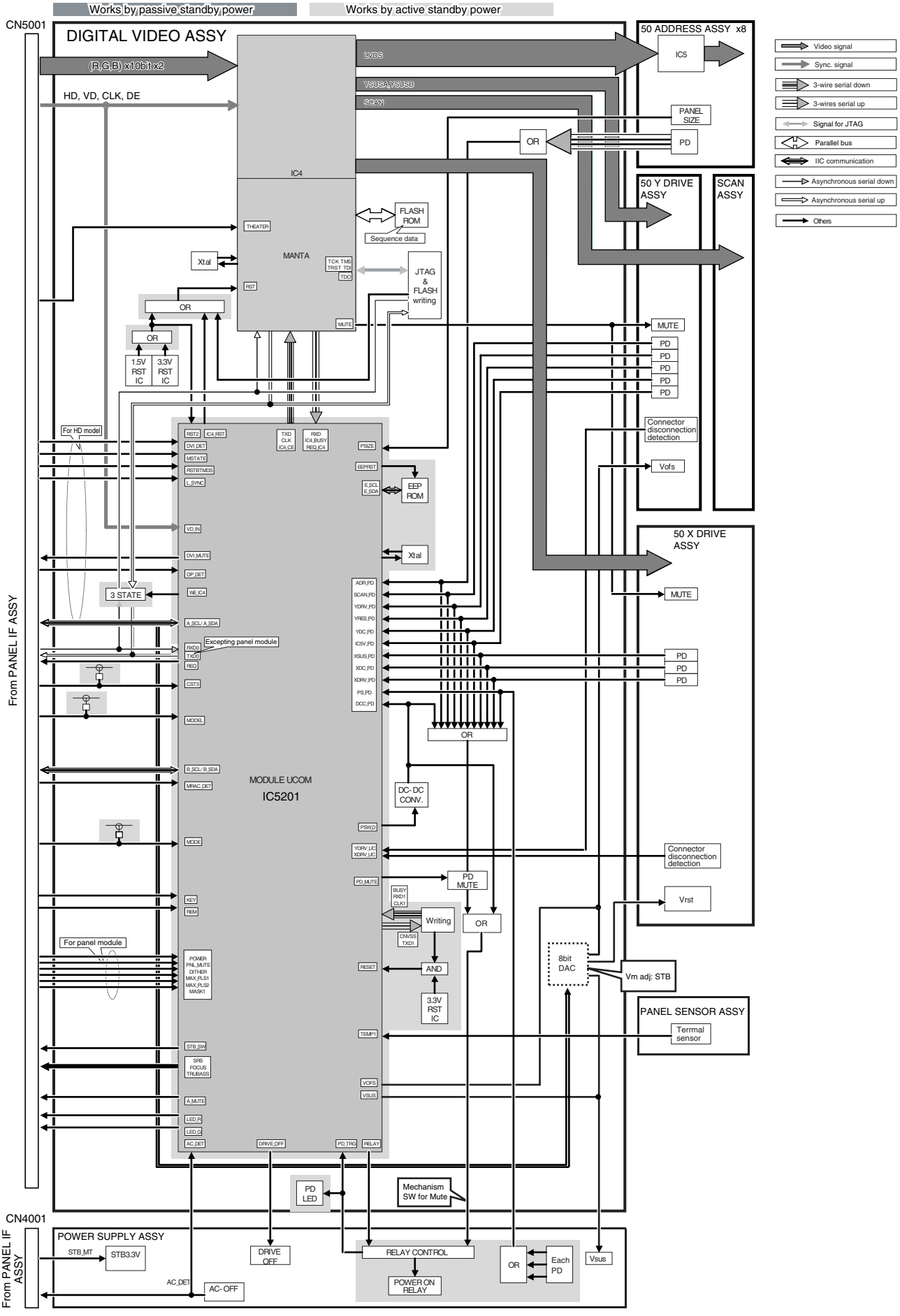
• Voltages

CN4004 (R4) < ⇔ DIGITAL VIDEO ASSY > (2/2)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
59	GB0	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
60	GB1	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
61	GB2	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
62	GB3	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
63	GB4	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
64	GB5	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
65	GB6	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
66	GB7	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
67	GND	–	GND	
68	GND	–	GND	
69	GND	–	GND	
70	GND	–	GND	
71	RB0	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
72	RB1	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
73	RB2	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
74	RB3	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
75	RB4	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
76	RB5	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
77	RB6	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
78	RB7	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
79	GND	–	GND	
80	MASK		Not connected	–
81	MODE		Not connected	–
82	MODEL		Not connected	–
83	DITHER		Not connected	–
84	V+3VACTV	O	Power supply +3.3V output of module UCOM at panel side	+3.3VDC
85	B_SDA	I	E2PROM control signal for backup	0-3.3V amplitude square wave
86	RXD0	O	UART communication receive data with the main UCOM (external PC) at MR side	0-3.3V amplitude square wave
87	REM_B	O	Remote control code signal output	0-3.3V amplitude square wave (at remocon code transmission)
88	TXD0	I	UART communication transmission data with the main UCOM (external PC) at MR side	0-3.3V amplitude square wave
89	KEY_B	O	Function key code signal output at panel side	0-3.3V amplitude square wave (at key operation)
90	REQ_MD	I	Communication request to the main UCOM at MR side	0-3.3V amplitude square wave
91	LED_R_B	I	LED control (red)	+3.3VDC
92	MR_AC_OFF	O	AC state output at MR side	0VDC
93	LED_G_B	I	LED control (green)	0VDC
94	POWER		Not connected	–
95	DVI_MUTE	I	DVI mute signal input	0VDC
96	MR_ST_B	O	Connection state detecting signal with MR	0VDC
97	A_MUTE	I	Audio mute signal input	0VDC
98	OP_DET		GND	
99	A_NG	O	Abnormal detecting signal of audio block	+3.3VDC
100	PNL_MUTE		Not connected	–
101	A_SCL	I	I2C control signal for audio	0-3.3V amplitude square wave
102	STB_SW	I	Standby signal of audio block	+3.3VDC
103	A_SDA	I	I2C control signal for audio	0-3.3V amplitude square wave
104	DDC_WP	I	GND	
105	TRUBASS	I	TRUBASS function control signal	+3.3VDC
106	B_SCL	I	E2PROM control signal for backup	0-3.3V amplitude square wave
107	FOCUS	I	FOCUS function control signal	+3.3VDC
108	DVI_OFF	O	Connection detecting signal of DVI connector	0VDC
109	SRS	I	SRS function control signal	+3.3VDC
110	RSTBTMD	O	TMDS IC reset signal	+3.3VDC
111	MAX_PLS1		Not connected	–
112	L_SYNC	O	TMDS IC synchronous detecting signal	+3.3VDC
113	MAX_PLS2		Not connected	–
114	GND	–	GND	

3.1.5 DIGITAL VIDEO ASSY

• Block Diagram



• Voltages

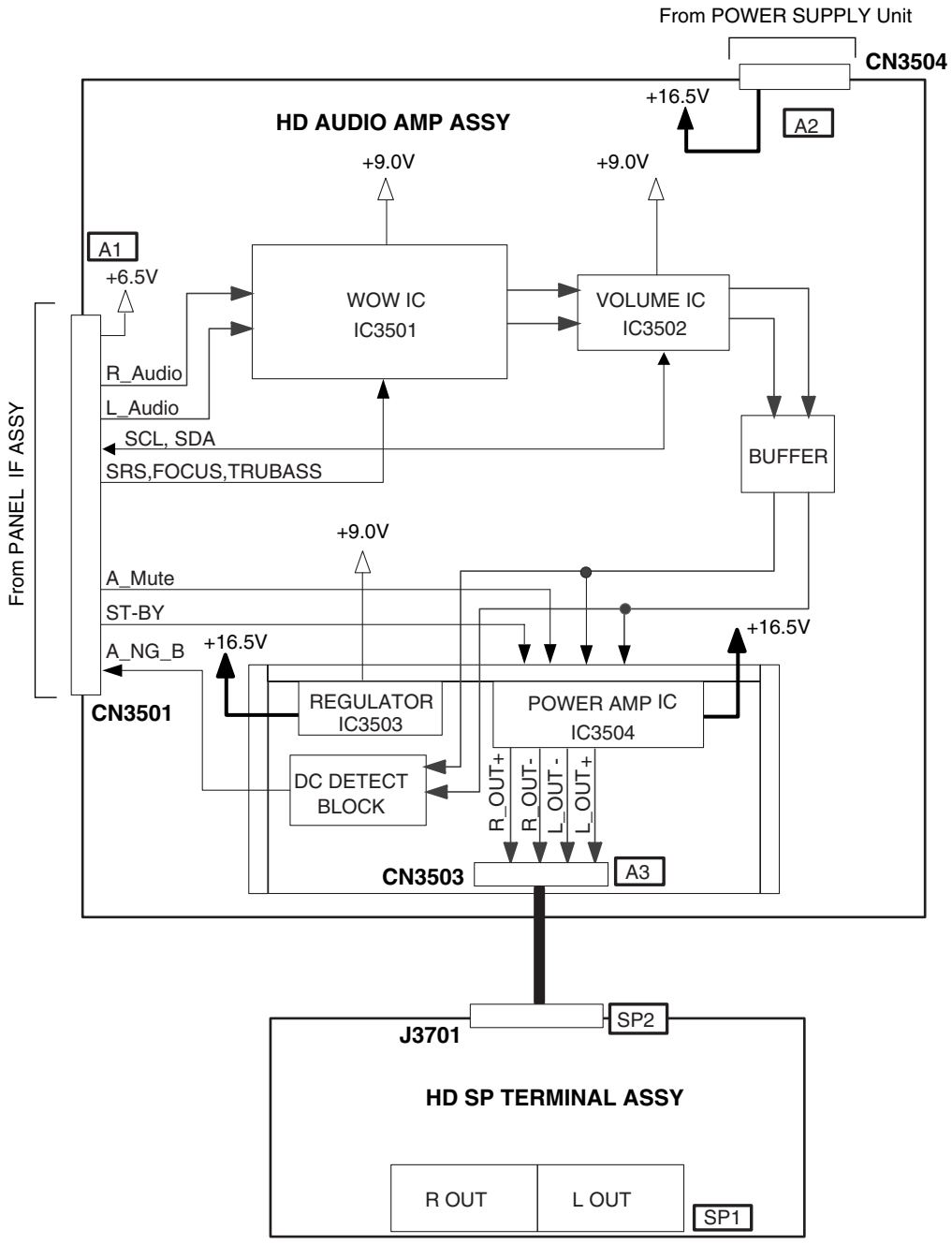
CN5601 (D1)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	+12V	I	+12V power input	+12VDC
2	+12V	I	+12V power input	+12VDC
3	GND_D	–	GND	
4	GND_D	–	GND	
5	PD	O	Power down signal	0VDC
6	VSUS_ADJ	O	VSUS adjustment signal	
7	PS_PD	I	Power-down detecting signal of POWER SUPPLY block	0VDC
8	RELAY	O	Relay control signal	+3.3VDC
9	DRF	O	Drive control signal	0VDC
10	AC_DET	I	Primary side power (AC) state output at panel side	+3.0VDC
11	PD_TRIGGER	I	Power down trigger	+3.3VDC

CN5602 (D2)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	VADR	I	Address drive power (+61V) input	+61VDC
2	VADR	I	Address drive power (+61V) input	+61VDC
3	N.C		Not connected	
4	GND_ADR	–	GND	
5	GND_ADR	–	GND	
6	+6.5V	I	+6.5V power input	+6.8VDC
7	GND_D	–	GND	

3.1.6 HD AUDIO AMP ASSY

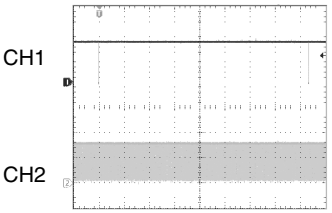


3.2 WAVEFORMS

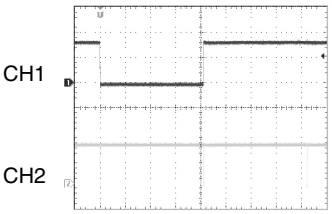
DIGITAL VIDEO ASSY (4/6)

• DIGITAL IF BLOCK

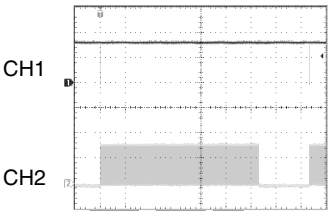
① CH1: TP5102 (VD)
CH2: TP5101 (HD)
V: 2V/div. H: 2msec/div.



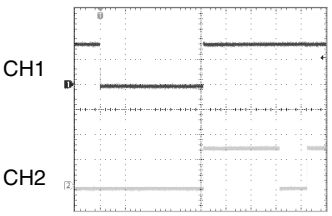
① CH1: TP5102 (VD)
CH2: TP5101 (HD)
V: 2V/div. H: 4µsec/div.



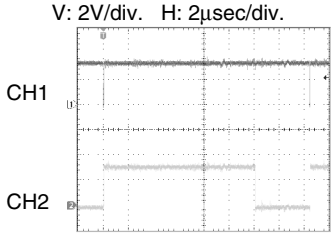
② CH1: TP5102 (VD)
CH2: TP5103 (DE)
V: 2V/div. H: 2msec/div.



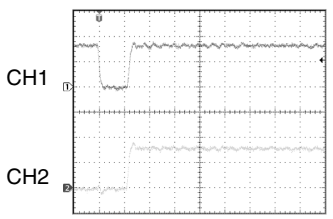
② CH1: TP5102 (VD)
CH2: TP5103 (DE)
V: 2V/div. H: 4µsec/div.



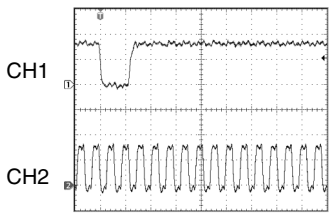
③ CH1: TP5101 (HD)
CH2: TP5103 (DE)
V: 2V/div. H: 2µsec/div.



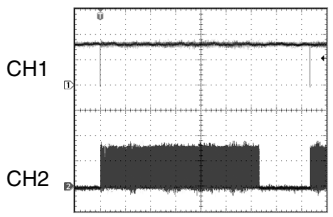
③ CH1: TP5101 (HD)
CH2: TP5103 (DE)
V: 2V/div. H: 40nsec/div.



④ CH1: TP5101 (HD)
CH2: CN5001-pin 77 (DCLK)
V: 2V/div. H: 40nsec/div.



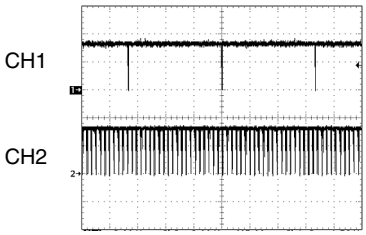
⑤ CH1: TP5102 (VD)
CH2: CN5001-pin 86 (RA_IN2)
V: 2V/div. H: 2msec/div.



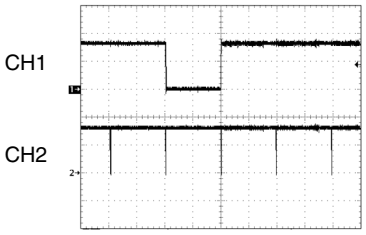
PANEL IF ASSY (1/2)

• TMDS RX BLOCK

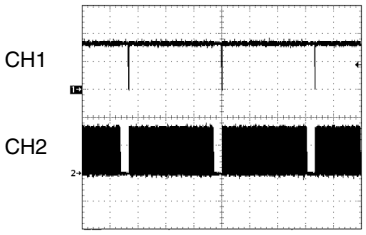
① CH1: K4005 (VDI)
CH2: K4006 (HDI)
V: 2V/div. H: 5msec/div.



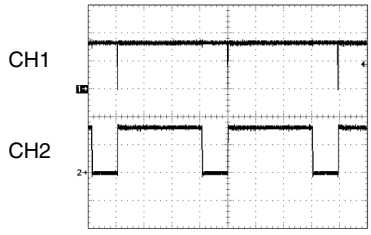
① CH1: K4005 (VDI)
CH2: K4006 (HDI)
V: 2V/div. H: 10µsec/div.



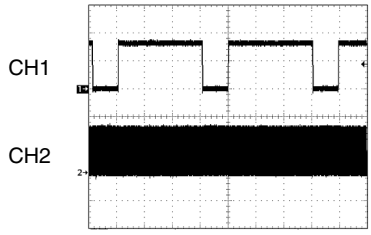
② CH1: K4005 (VDI)
CH2: CN4004-pin 29 (RAO)
V: 2V/div. H: 5msec/div.



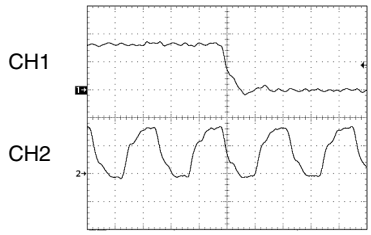
③ CH1: K4006 (HDI)
CH2: K4003 (DEI)
V: 2V/div. H: 5µsec/div.



④ CH1: K4003 (DEI)
CH2: K4002 (DCLK)
V: 2V/div. H: 5µsec/div.



④ CH1: K4003 (DEI)
CH2: K4002 (DCLK)
V: 2V/div. H: 10nsec/div.



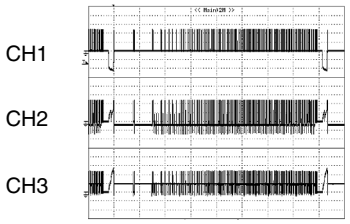
50 X DRIVE ASSY, 50 Y DRIVE ASSY and 50 SCAN A ASSY

• 50 X SUS BLOCK, 50 Y LOGIC BLOCK, 50 Y SUS BLOCK

① Drive Output Waveform (1 field,color-bar)

CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)
CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)
CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)

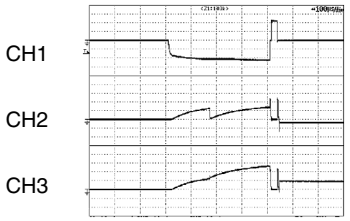
V: 100V/div. H: 2msec/div.



① Reset Pulse

CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)
CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)
CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)

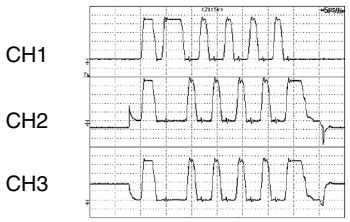
V: 100V/div. H: 100µsec/div.



① Sustain Pulse (1 sub-sub-field)

CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)
CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)
CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)

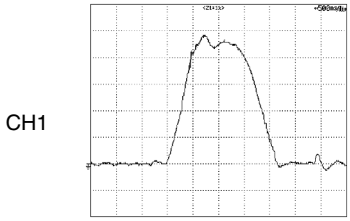
V: 50V/div. H: 5µsec/div.



② Sustain Waveform

CH1: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)

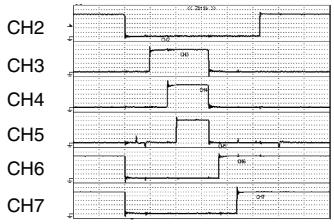
V: 50V/div. H: 500nsec/div.



③ Control Signal (Sustain Waveform Gen.)

CH2: K2016 (YSUS-G) - K2010 (DGND)
CH3: K2025 (YSUS-U1) - K2010 (DGND)
CH4: K2022 (YSUS-U2) - K2010 (DGND)
CH5: K2026 (YSUS-B) - K2010 (DGND)
CH6: K2024 (YSUS-D2) - K2010 (DGND)
CH7: K2027 (YSUS-D1) - K2010 (DGND) (50 Y DRIVE ASSY)

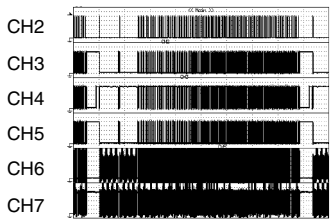
V: 1V/div. H: 500nsec/div.



④ Scan Control Signal (1 field, color-bar)

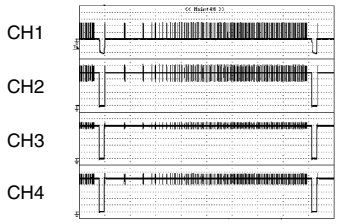
CH2: K2006 (SI) - K2029 (DGND)
CH3: K2009 (OC1) - K2029 (DGND)
CH4: K2004 (OC2) - K2029 (DGND)
CH5: K2007 (CLR) - K2029 (DGND)
CH6: K2003 (CLK2) - K2029 (DGND)
CH7: K2008 (LE) - K2029 (DGND) (50 Y DRIVE ASSY)

V: 1V/div. H: 2msec/div.



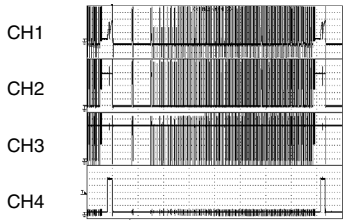
⑤ X Drive Pulse Control Signal (color-bar)

CH1: R1226 (XPSUS) - K2301 (SUSGND)
V: 100V/div. H: 2msec/div.
CH2: K1016 (XCP-MSK) - K1020 (DGND)
CH3: K1015 (XSUS-MSK) - K1020 (DGND)
CH4: K1014 (XNR-D) - K1020 (DGND)
V: 1V/div. H: 2msec/div.
(50 X DRIVE ASSY)



⑥ Y Drive Pulse Control Signal (color-bar)

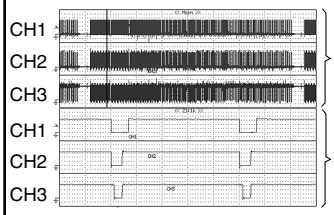
CH1: R2348 (YPSUS) - K2301 (SUSGND)
V: 50V/div. H: 2msec/div.
CH2: K2015 (YSUS-MSK) - K2010 (DGND)
CH3: K2017 (YSOFT-D) - K2010 (DGND)
CH4: K2023 (YPR-U) - K2010 (DGND)
V: 1V/div. H: 2msec/div.
(50 Y DRIVE ASSY)



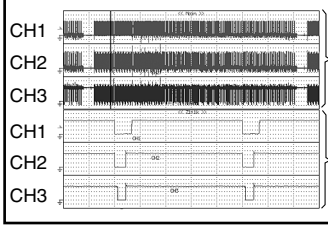
50 ADDRESS ASSY

• ADR RESONANCE BLOCK (VIDEO and PC)

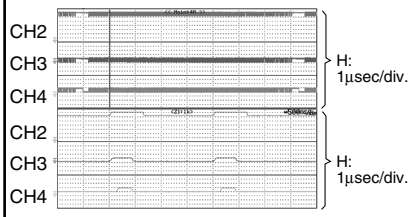
① CH1: IC1601-pin 2 (ADR_B2)
CH2: IC1603-pin 4 (ADR_U1)
CH3: IC1603-pin 2 (ADR_D1)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



② CH1: IC1601-pin 2 (ADR_B2)
CH2: IC1602-pin 4 (ADR_U2)
CH3: IC1602-pin 2 (ADR_D2)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)

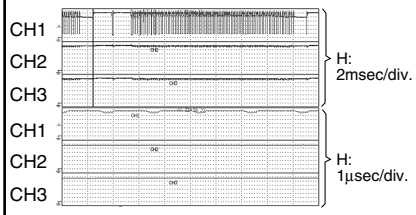


③ CH2: Q1601-pin 4 (ADR_B2)
CH3: Q1603-pin 4 (ADR_U1)
CH4: Q1603-pin 2 (ADR_D1)
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)

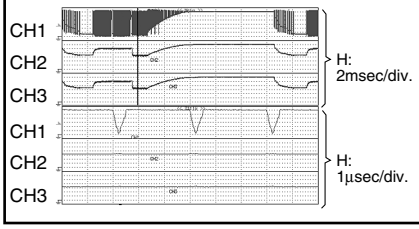


④ CH2: Q1601-pin 4 (ADR_B2)
CH3: Q1602-pin 4 (ADR_U2)
CH4: Q1602-pin 2 (ADR_D2)
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)

⑤ CH1: Q1601 Drain (V+ADR)
CH2: Q1603 Source
CH3: Q1602 Source
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)



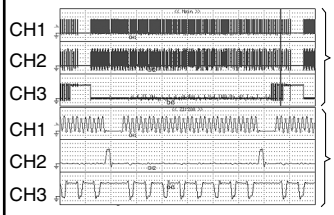
⑥ CH1: Q1601 Drain (V+ADR)
CH2: Q1603 Source
CH3: Q1602 Source
V: 10V/div.
(Input: VIDEO, Signal: B/W(1×8))



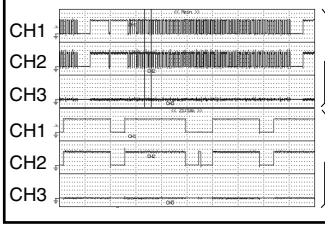
50 ADDRESS ASSY

• ADR LOGIC BLOCK

① CH1: IC1553-pin 18 (CLK input)
CH2: IC1553-pin 16 (LE input)
CH3: IC1553-pin 9 (DATA input)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



② CH1: IC1553-pin 23 (HBLK input)
CH2: IC1553-pin 19 (LBLK input)
CH3: IC1553-pin 25 (HZ input)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→ *56 x 10[1]* →	*561*	*RD1/4PU[5][6][1]J*
47k Ω	→ *47 x 10[3]* →	*473*	*RD1/4PU[4][7][3]J*
0.5 Ω	→	*R50*	*RN2H[R][5][0]K*
1 Ω	→	*1R0*	*RS1P[1][R][0]K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→ *562 x 10[1]* →	*5621*	*RN1/4PC[5][6][2][1]F*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1	..50 ADDRESS ASSY	AWV2080
NSP	2	..50 ADDRESS ASSY	AWZ6870
NSP	1	..50 SCAN ASSY	AWV2083
NSP	2	..50 SCAN A ASSY	AWZ6878
NSP	2	..50 SCAN B ASSY	AWZ6879
NSP	2	..X CONNECTOR A ASSY	AWZ6880
NSP	2	..X CONNECTOR B ASSY	AWZ6881
NSP	1	..HD PANEL IF ASSY	AWV2073
	2	..PANEL IF ASSY	AWZ6841
	1	..DIGITAL VIDEO ASSY	AWV2074
NSP	1	..HD AUDIO ASSY	AWV2075
	2	..HD AUDIO AMP ASSY	AWZ6863
	2	..HD SP TERMINAL ASSY	AWZ6864
NSP	1	..50 X DRIVE ASSY	AWV2081
	2	..PANEL LED ASSY	AWZ6842
	2	..PANEL KEY ASSY	AWZ6843
	2	..KEY CONTROL ASSY	AWZ6844
	2	..PANEL IR ASSY	AWZ6845
	2	..PANEL SENSOR ASSY	AWZ6872
	2	..50 X DRIVE ASSY	AWZ6877
	1	..50 Y DRIVE ASSY	AWV2082
⚠	1	..POWER SUPPLY UNIT	AXY1085

50 ADDRESS ASSY

[50 ADR LOGIC BLOCK]

Mark	No.	Description	Part No.
SEMICONDUCTORS			
		IC1501	PEE001B
COILS AND FILTERS			
		L1504	QTL1013
CAPACITORS			
		C1501, C1502 (47/6.3V)	ACH1357
		C1509, C1510	CKSSYB102K50
		C1503-C1507, C1511, C1512, C1552	CKSSYF104Z16
		C1555, C1558, C1561, C1564	CKSSYF104Z16
RESISTORS			
		R1510, R1519, R1522, R1526	RAB4C470J
		R1505-R1509, R1530, R1531	RS1/16SS1000F
		R1511-R1518, R1520, R1521, R1523	RS1/16SS470J
		R1524, R1527, R1528, R1532-R1535	RS1/16SS470J
		Other Resistors	RS1/16S###J
OTHERS			
		CN1501 40P FFC CONNECTOR	AKM1215

[50 ADR RESONANCE BLOCK]

Mark	No.	Description	Part No.
SEMICONDUCTORS			
		IC1601-IC1603	TND307TD
		Q1604	2SA1163
		Q1601	HAT1110R
		Q1602, Q1603	HAT3021R
		D1601	1SS302
		D1605, D1606, D1616, D1617	D1FL20U(S)
		D1610, D1619	RF051UA1D
		D1602, D1607, D1615	UDZS15(B)
COILS AND FILTERS			
		L1601, L1602	ATH1164
CAPACITORS			
		C1605 (0.01/100V)	ACG1101
		C1619, C1620 (330P/100V)	ACG1105
		C1609, C1615 (0.1/100V)	ACG1119
		C1618 (47/6.3V)	ACH1357
		C1603 (47/16V)	ACH1391
		C1601, C1602 (56/80V)	ACH1405
		C1608, C1614	CKSRYB104K25
		C1604, C1606, C1612	CKSSYF104Z16
RESISTORS			
		R1631	ACN1174

Mark	No.	Description	Part No.
		Other Resistors	RS1/16S###J

50 SCAN A ASSY

SEMICONDUCTORS

	IC3001-IC3006	AN16021AA
	D3003-D3006	1SS355

CAPACITORS

	C3001, C3002, C3012, C3013 (0.1/250V)	ACG1088
	C3023, C3024, C3034, C3035 (0.1/250V)	ACG1088
	C3045, C3046, C3056, C3057 (0.1/250V)	ACG1088
	C3005, C3008, C3016, C3019, C3026	CCSRCH101J50
	C3029, C3037, C3040, C3048, C3051	CCSRCH101J50
	C3060, C3063	CCSRCH101J50
	C3007, C3018, C3033, C3044, C3050	CCSRCH181J50
	C3062	CCSRCH181J50
	C3006, C3011, C3017, C3022	CCSRCH331J50
	C3031, C3032, C3042, C3043, C3049	CCSRCH331J50
	C3055, C3061, C3066	CCSRCH331J50
	C3009, C3010, C3020, C3021, C3028	CCSRCH390J50
	C3030, C3039, C3041, C3053, C3054	CCSRCH390J50
	C3064, C3065	CCSRCH390J50
	C3003, C3014, C3025, C3036, C3047	CKSRYB105K6R3
	C3058	CKSRYB105K6R3

RESISTORS

	R3003, R3011, R3017, R3025, R3030	RAB4C221J
	R3036	RAB4C221J
	Other Resistors	RS1/16S###J

OTHERS

	CN3001 13P CONNECTOR NON PB	AKP1261
	K3001, K3004, K3009, K3015, K3017	AKX9002
	K3019, K3021 TEST PIN	AKX9002

50 SCAN B ASSY

SEMICONDUCTORS

	IC3201-IC3206	AN16021AA
	D3203-D3206	1SS355

CAPACITORS

	C3201, C3211, C3212, C3222, C3223	ACG1088
	C3233, C3234, C3244, C3245(0.1/250V)	ACG1088
	C3255, C3256, C3266 (0.1/250V)	ACG1088
	C3203, C3204, C3214, C3215, C3226	CCSRCH101J50
	C3228, C3237, C3239, C3247, C3251	CCSRCH101J50
	C3258, C3259	CCSRCH101J50
	C3206, C3217, C3232, C3243, C3249	CCSRCH181J50
	C3261	CCSRCH181J50
	C3205, C3210, C3216, C3221	CCSRCH331J50
	C3230, C3231, C3241, C3242, C3248	CCSRCH331J50
	C3254, C3260, C3265	CCSRCH331J50
	C3208, C3209, C3219, C3220, C3227	CCSRCH390J50
	C3229, C3238, C3240, C3252, C3253	CCSRCH390J50
	C3263, C3264	CCSRCH390J50
	C3202, C3213, C3224, C3235, C3246	CKSRYB105K6R3
	C3257	CKSRYB105K6R3

RESISTORS

	R3202, R3210, R3216, R3224, R3229	RAB4C221J
	R3235	RAB4C221J

Mark	No.	Description	Part No.
		Other Resistors	RS1/16S###J

OTHERS

	CN3201 13P CONNECTOR NONPB	AKP1261
	K3203, K3208, K3214, K3216, K3218	AKX9002
	K3221 TEST PIN	AKX9002

X CONNECTOR A ASSY

This assembly has no service part.

X CONNECTOR B ASSY

This assembly has no service part.

PANEL IF ASSY

[PANEL IF BLOCK]

SEMICONDUCTORS

	IC4002	BR24L02FJ-W
⚠	IC4003	NCP1117DT33
	IC4006	SN74AHC541PW
	Q4007	DTA143EUA
	Q4004, Q4008, Q4009, Q4012	DTC143EUA
	Q4014-Q4017	DTC143EUA
	Q4005, Q4006, Q4010, Q4013	RN1901
	Q4011	RN2901
	Q4001	SM6K2
	D4006	1SS355
	D4001-D4004, D4007	RB751V-40
⚠	D4005	UDZS5R1(B)

COILS AND FILTERS

	F4002	ATF1213
	L4001	LCTAW221J3225

CAPACITORS

	C4009, C4020	CCSRCH471J50
	C4005, C4006	CCSSCH100D50
	C4019	CCSSCH101J50
	C4011, C4018, C4021	CEAT101M10
	C4003, C4015	CEAT101M16
	C4004, C4010, C4012, C4014	CKSRYB103K50
	C4016, C4024, C4041	CKSSYF104Z16

RESISTORS

	R4006	RAB4C101J
	R4001	RS1/16S331J
	Other Resistors	RS1/16SS###J

OTHERS

	CN4004 114PFFC CONNECTOR	AKM1216
	CN4003 DVI SOCKET (24P)	AKP1216
	CN4002 SOCKET (20P)	AKP1226
	CN4001 PLUG (8P)	KM200NA8
	CN4010 PLUG (9P)	KM200NA9
	CN4009 PLUG (13P)	KM200NA13

[TMDS RX BLOCK]

SEMICONDUCTORS

	IC4206	BA8274F
	IC4205	PST3628UR
	IC4202	SII169CTG100

Mark No.	Description	Part No.
Q4215		SM6K2
D4203, D4204		1SS355
D4202		UDZS6R8(B)

COILS AND FILTERS

L4201		ATH1162

CAPACITORS

C4208, C4215, C4218, C4222, C4230		CCSRCH331J50
C4262		CCSRCH471J50
C4207, C4210, C4232, C4233, C4236		CCSSCH820J50
C4241, C4244, C4258		CCSSCH820J50
C4242, C4246		CEAT101M10
C4202, C4237, C4238		CEAT470M10
C4260		CKSRYB472K50
C4203, C4213, C4240, C4243, C4247		CKSSYF104Z16
C4261, C4271		CKSSYF104Z16

RESISTORS

R4241		RAB4C220J
R4213-R4218, R4245, R4247		RAB4C470J
R4253-R4255, R4257		RAB4C470J
R4250		RS1/16S3900F
R4222- R4225		RS1/16S0R0J
Other Resistors		RS1/16SS###J

DIGITAL VIDEO ASSY

[DIGITAL IF BLOCK]

RESISTORS

R5101-R5115, R5131		RAB4C470J
Other Resistors		RS1/16SS###J

OTHERS

CN5001 114P FFC CONNECTOR		AKM1216

[MODULE UCOM BLOCK]

SEMICONDUCTORS

IC5206		BR24L04FJ-W
IC5201		M30622F8PGP
IC5205		PST3628UR
IC5208		SN74AHC08PW
IC5214, IC5215		SN74AHC32PW
IC5211, IC5212		SN74AHC541PW
IC5209		TC7W126FU
Q5201		2SJ461A
Q5202		DTC143EUA
D5217		1SS355
D5207-D5212		DAN202U
D5201		SML-310LT

SWITCHES AND RELAYS

S5201		ASH1047

CAPACITORS

C5213, C5225		ACH1357
C5205		CKSRYB472K50
C5206, C5223, C5231, C5245-C5252		CKSSYB102K50
C5257- C5260		CKSSYB102K50
C5202-C5204, C5207, C5208		CKSSYF104Z16
C5210-C5212, C5218, C5224		CKSSYF104Z16
C5226, C5227, C5243, C5244		CKSSYF104Z16

Mark No.	Description	Part No.

RESISTORS

R5209, R5211, R5212, R5235		RAB4C101J
R5254, R5255, R5265, R5266		RAB4C101J
R5205		RAB4C103J
R5270, R5271		RAB4C472J
R5256, R5257		RAB4C474J
R5294		RS1/16S0R0J
Other Resistors		RS1/16SS###J

OTHERS

CN5201 PLUG 8-P		AKM1225
CN5202 CONNECTOR		AKM1274
⚠X5201 CERAMIC RESONATOR		ASS1178

[PANEL FLASH BLOCK]

SEMICONDUCTORS

IC5305		MBM29PL160BD-75PFTN
IC5303		PST3612UR
IC5301		PST3628UR
IC5302		SN74AHC08PW
Q5301		RN1901
D5301-D5310		DA204U

CAPACITORS

C5320		CCSRCH470J50
C5321, C5322		CCSRCH471J50
C5311, C5314		CKSRYB104K16
C5303, C5306		CKSRYB472K50
C5304, C5307		CKSSYB102K50
C5301, C5302, C5305, C5309, C5313		CKSSYF104Z16
C5316		CKSSYF104Z16

RESISTORS

R5317, R5318		RAB4C101J
Other Resistors		RS1/16SS###J

OTHERS

CN5301 PLUG 15-P		AKM1232
⚠X5302 CRYSTAL OSCILLATOR		ASS1174
⚠X5301 CRYSTAL OSCILLATOR		ASS1182

[IC4 BLOCK]

SEMICONDUCTORS

IC5401		PEG054A
D5401		SML-310LT
D5402		SML-310MT

COILS AND FILTERS

F5401, F5403, F5409, F5410		ATF1213

CAPACITORS

C5401, C5413, C5417, C5424 (100UF/6.3V)		ACH1396
C5434, C5435		CKSSYB102K50
C5402-C5412, C5414-C5416		CKSSYF104Z16
C5418-C5423, C5425-C5431		CKSSYF104Z16

RESISTORS

R5406, R5421		RAB4C101J
R5408-R5413, R5415, R5416, R5419		RAB4C220J
R5422		RAB4C220J
R5405		RS1/16S5601F

Mark No.	Description	Part No.
	R5401-R5404	RS1/16S0R0J
	Other Resistors	RS1/16SS###J
	[ADDRESS CN BLOCK]	
	RESISTORS	
	Other Resistors	RS1/16SS###J
	OTHERS	
	CN5521 50P CONNECTOR	AKM1201
⚠	CN5501-CN5508 40P CONNECTOR	AKM1217
	CN5511 30P FFC CONNECTOR	AKM1218
	[DIGITAL DD CON BLOCK]	
	SEMICONDUCTORS	
⚠	IC5605	BA90BC0FP
⚠	IC5604	MM1665AT
	Q5601	HN1C01FU
	D5602, D5609	DAN202U
	D5601	HZU2R2(B)
	D5604	UDZS5R1(B)
	CAPACITORS	
	C5601, C5603, C5614, C5616 (100UF/16V)	ACH1394
	C5602, C5604, C5615, C5617	CKSRYB103K50
	C5605, C5606	CKSSYF104Z16
	RESISTORS	
	R5613	RS1/16S0R0J
	Other Resistors	RS1/16SS###J
	OTHERS	
⚠	CN5602 7P CONNECTOR	AKM1278
⚠	CN5601 11P CONNECTOR	AKM1282
	U5602 DD CON UNIT	AXY1086

HD AUDIO AMP ASSY

Mark No.	Description	Part No.
	SEMICONDUCTORS	
	IC3502	BD3869AS
	IC3504	LA4625
	IC3501	NJM2195L
	IC3503	NJM7809FA
	Q3501, Q3502, Q3507, Q3510, Q3511	2SA1162
	Q3503, Q3504, Q3508	2SC2712
	Q3512	DTC124EK
	D3501-D3504	1SS355
	CAPACITORS	
	C3525	CCSRCH221J50
	C3501-C3504, C3520, C3528-C3532	CEAT100M50
	C3505, C3526, C3549, C3557, C3564	CEAT101M16
	C3519	CEAT1R0M50
	C3536	CEAT220M50
	C3537, C3538	CEAT2R2M50
	C3551, C3552	CEAT330M25
	C3566	CEHAT101M10
	C3561	CEHAT101M16
	C3562, C3565	CEHAT220M50
	C3559, C3560	CEHAT2R2M50
	C3509	CEHAT331M16
	C3507	CEHAT471M25
	C3571	CEHAT472M25
	C3563	CEHATR47M50
	C3512, C3522, C3572	CFTLA103J50
	C3511, C3513-C3518, C3533, C3534	CFTLA104J50
	C3545-C3548, C3573-C3576	CFTLA104J50
	C3521	CFTLA333J50
	C3524	CFTLA334J50
	C3523	CFTLA474J50
	C3506, C3508, C3510, C3527, C3535	CKSRYB103K50
	C3550, C3558	CKSRYB103K50
	C3543, C3544	CQMA222J50
	RESISTORS	
	R3599-R3602	RD1/2MMF2R2J
	Other Resistors	RS1/16S###J
	OTHERS	
	3511 AUDIO HEATSINK	ANH1612
	CN3504 CONNECTOR	B3P-VH
	CN3502, CN3503 PLUG (6P)	KM200NA6
	CN3501 PLUG (13P)	KM200NA13
	3512-3515 SCREW	VBB30P100FNI
	KN3501, KN3502 WRAPPING TERMINAL	VNF1084

HD SP TERMINAL ASSY

Mark No.	Description	Part No.
	COILS AND FILTERS	
⚠	L3701, L3702	ATF1206
	CAPACITORS	
⚠	C3701-C3704	CCSRCH101J50
	C3713-C3716	CCSRCH221J50
	C3709, C3710	CKSRYB332K50
	C3711, C3712	CKSRYF473Z50
	RESISTORS	
	R3701-R3704	RD1/2MMF100J
	OTHERS	
	J3701 6P HOUSING WIRE	ADX3041
	CN3701 SPEAKER TERMINAL	AKE1060
⚠	3701 SPEAKER SHIELD A	ANK1710
⚠	3702 SPEAKER SHIELD B	ANK1711

PANEL LED ASSY

Mark No.	Description	Part No.
	SEMICONDUCTORS	
	D4751	SML-310MT
	D4752	SML-311UT
	COILS AND FILTERS	
	F4751- F4753	QTL1011
	OTHERS	
	CN4751 PLUG (3P)	KM200NA3

PANEL KEY ASSY

SWITCHES AND RELAYS

Mark	No.	Description	Part No.
	S4801-S4806		VSG1024
	OTHERS		
	CN4801	6P FFC CONNECTOR	AKM1208

KEY CONTROL ASSY

	SEMICONDUCTORS		
	IC4851		PD5719A
	D4851-D4853, D4855, D4856		DA204U
	COILS AND FILTERS		
	F4851- F4856		QTL1011
	CAPACITORS		
⚠	C4856-C4858		CCSSCH101J50
	C4854		CEAT470M50
	C4853		CKSRYB103K50
	RESISTORS		
	R4858		RAB4C182J
	R4861-R4863		RS1/16S101J
	Other Resistors		RS1/16SS###J
	OTHERS		
	CN4851	6P FFC CONNECTOR	AKM1272
⚠	X4851	CERALOCK	ASS1162
	CN4852	PLUG (4P)	KM200NA4

PANEL IR ASSY

	SEMICONDUCTORS		
	Q4901		2SC4116
	D4902		DA204U
	CAPACITORS		
	C4901		CEVW470M6R3
	C4902		CKSRYB103K50
	C4903		CKSSYB102K50
	C4904		CKSSYF104Z16
	RESISTORS		
	Other Resistors		RS1/16SS###J
	OTHERS		
	CN4901	L-PLUG (3P)	KM200NA3L
	U4901	REMOTE RECEIVER UNIT	RPM7240-H5

PANEL SENSOR ASSY

	SEMICONDUCTORS		
	IC1072		MM1522XU
	IC1071		MM3012XN
	CAPACITORS		
	C1071, C1074, C1075		CKSRYB103K50
	C1072, C1073		CKSRYF105Z10
	RESISTORS		
	R1073, R1074		RS1/16S1001F
	Other Resistors		RS1/16SS###J
	OTHERS		
	CN1071	PLUG (3P)	KM200NA3

Mark	No.	Description	Part No.

50 X DRIVE ASSY

[50 X LOGIC BLOCK]

	SEMICONDUCTORS		
	IC1002		TC74ACT540FT
	IC1001		TC74ACT541FT
	IC1003		TC74VHC08FT
	CAPACITORS		
	C1001		CEHAT470M25
	C1002-C1004		CKSSYB104K10
	RESISTORS		
	R1001, R1002, R1005		RAB4C470J
	R1003, R1004, R1007		RAB4C472J
	Other Resistors		RS1/16S###J
	OTHERS		
	CN1001	30P FFC CONNECTOR	AKM1218

[50 X RESONANCE BLOCK]

	SEMICONDUCTORS		
	IC1103		BA10393F
	IC1101, IC1102		TND506MD
	Q1113		2SC4116
	Q1102, Q1103, Q1111, Q1112		2SK3555-01MR
	Q1105, Q1108, Q1109		2SK3592-01S
	Q1101, Q1104, Q1107, Q1110		QSZ2
	D1109, D1122		1SS302
	D1112, D1119, D1135, D1136		1SS355
	D1101, D1102, D1104, D1105		D1FL40
	D1107, D1108, D1111, D1114-D1117		D1FL40
	D1120, D1121, D1127, D1128		D1FL40
	D1103, D1113, D1118, D1125		RF2001T3D
	D1129, D1130		RF2001T3D
	D1110, D1123		UDZS16(B)
	COILS AND FILTERS		
	L1103, L1105		ATH1119
	L1104		ATH1155
	L1102		ATH1156
	L1101		LFEA470J
	CAPACITORS		
	C1112, C1113, C1125-C1127		ACE1175
	C1111, C1124 (100P/630V)		ACG1104
	C1109, C1119 (0.22/250V)		ACG1112
	C1134, C1135 (150P/630V)		ACG1120
	C1101, C1105, C1116, C1117		CCSRCH331J50
	C1136		CEHAT2R2M50
	C1102, C1118		CKSRYB105K6R3
	C1128, C1130-C1132		CKSSYB104K10
	C1104, C1108, C1115, C1122		CKSYB105K25
	RESISTORS		
	R1116, R1122		RS1/10S1003F
	R1133, R1143-R1145		RS1/10S100J
	R1155, R1156		RS1/10S220J
	R1103, R1106, R1118, R1119, R1123		RS1/10S2R2J
	R1126, R1153		RS1/10S2R2J
	R1136		RS1/16S1202F
	R1139		RS1/16S3301F
	R1130		RS1/16S5601F
	R1134		RS1/16S8201F

Mark No.	Description	Part No.
	R1113, R1128	RS1MMF101J
	R1147, R1148	RS2MMF220J
	VR1101-VR1104	CCP1390
	Other Resistors	RS1/16S###J

OTHERS

1101	DRIVE HEATSINK	ANH1628
1101	SCREW	PMH30P080FTC

[50 X SUS BLOCK]

SEMICONDUCTORS

IC1202	HCPL-M611
IC1205	NJM2872F05
IC1203, IC1207	STK795-512A
IC1206	TND301S
IC1204, IC1209	TND307TD
Q1209	2SA1727
Q1203	2SD1898
Q1205	2SK2865
Q1208	DTC124EUA
Q1201	HN1B04FU
D1212	1SS302
D1211, D1213	1SS355
D1204, D1217	D1FL40
D1201, D1207	EC10QS04
D1208	UDZS5R6(B)

COILS AND FILTERS

L1204, L1205	ATH1112
L1202, L1207	LFEA100J
L1203, L1206	LFEA470J

CAPACITORS

C1214-C1216, C1228-C1230	ACE1163
C1245	ACE1173
C1209 (0.1/630V)	ACG1092
C1219, C1231	ACH1415
C1246	CEHAT221M25
C1201, C1203, C1207, C1220	CEHAT470M25
C1223, C1224, C1238, C1239, C1248	CEHAT470M25
C1212, C1213, C1225, C1240, C1241	CKSRYB104K16
C1243	CKSRYB104K16
C1202, C1205, C1206, C1247	CKSRYF104Z50

RESISTORS

R1230	ACN1166
R1208, R1260, R1261	ACN1174
R1255	ACN1178
R1256	ACN1198
R1226, R1251	RS1MMF331J
R1235, R1236	RS2MMF121J
Other Resistors	RS1/16S###J

OTHERS

KN1201-KN1205, KN1208	ANK-142
KN1210-KN1212, KN1214	ANK-142
GROUND PLATE	
CN1201 CONNECTOR	B12B-EH

[50 X D-DCON BLOCK]

SEMICONDUCTORS

Mark No.	Description	Part No.
	IC1402	MIP2E3DMU
	IC1401, IC1403	PS2701A-1(L)
	IC1404	TA76431FR
	Q1401	2SA1576A
	Q1402	2SC4116
	D1406, D1409, D1410	D1FK70
	D1407, D1408	D1FL20U(S)
	D1405	U1ZB330
	D1401, D1403	UDZS5R6(B)

COILS AND FILTERS

⚠T1401	ATK1153
L1401	LFEA101J

CAPACITORS

C1401, C1402	ACH1361
C1404	CEHAT101M16
C1405	CEHAT101M25
C1409	CEHAT331M16
C1403, C1407, C1408, C1411	CKSRYB104K16
C1406	CKSRYF104Z50

RESISTORS

R1405, R1406, R1408-R1410, R1414	RS1/10S3602F
R1420	RS1/16S1101F
R1403	RS1/16S2702F
R1401, R1404	RS1/16S4701F
R1417	RS1/16S7500F
VR1401	CCP1390
Other Resistors	RS1/16S###J

OTHERS

⚠1001 DRIVE SIRICON SHEET	AEH1062
1001 PLATE X	ANG2664
1001 DRIVE HEATSINK A	ANH1613
1001 SCREW	PMZ30P080FTC
1002 SCREW	PMB30P060FNI

50 Y DRIVE ASSY

OTHERS

2002	CARD SPACER	AEC1957
⚠2001	DRIVE SIRICON SHEET	AEH1062
2001	PLATE Y	ANG2557
2001	DRIVE HEATSINK A	ANH1613
2001	SCREW	PMZ30P080FTC
2002	SCREW	PMB30P060FNI

[50 Y LOGIC BLOCK]

SEMICONDUCTORS

IC2002	TC74ACT540FT
IC2001, IC2003	TC74ACT541FT
IC2005, IC2006	TC74VHC08FT
IC2004	TC74VHC541FT

CAPACITORS

C2001	CEHAT470M16
C2007	CKSRYB471K50
C2002-C2006, C2008	CKSSYB104K10

RESISTORS

R2045	RAB4C0R0J
R2055	RAB4C100J

Mark No.	Description	Part No.
	R2025	RAB4C101J
	R2018, R2019	RAB4C102J
	R2002, R2004, R2013-R2015	RAB4C470J
	R2005, R2006, R2012, R2016, R2017	RAB4C472J
	Other Resistors	RS1/16S###J
	OTHERS	
	CN2001 50P CONNECTOR	AKM1201
	[50 Y SCAN BLOCK]	
	SEMICONDUCTORS	
	IC2101, IC2103-IC2106, IC2108, IC2109	HCPL-M611
	IC2111, IC2112	PST3638UR
	IC2102, IC2107	TC74ACT540FT
	COILS AND FILTERS	
	L2101-L2103	LFEA100J
	CAPACITORS	
	C2104, C2111	ACH1413
	C2101, C2107, C2113	CEHAT221M16
	C2118, C2119	CKSRYB102K50
	C2116, C2117	CKSRYB471K50
	C2102, C2103, C2105, C2106	CKSSYB104K10
	C2108-C2110, C2112, C2114	CKSSYB104K10
	RESISTORS	
	R2138, R2141	RAB4C0R0J
	R2121, R2128	RAB4C472J
	Other Resistors	RS1/16S###J
	OTHERS	
	CN2101, CN2102 15P CONNECTOR	AKM1200
	[50 Y RESONANCE BLOCK]	
	SEMICONDUCTORS	
	IC2211	BA10393F
	IC2201, IC2202	TND506MD
	Q2213	2SC4081
	Q2205, Q2206, Q2208, Q2209	2SK3555-01MR
	Q2202, Q2203, Q2212	2SK3592-01S
	Q2201, Q2204, Q2207, Q2210	QSZ2
	D2209, D2223	1SS302
	D2228, D2229, D2232, D2233	1SS355
	D2202-D2205, D2207, D2208	D1FL40
	D2212-D2214, D2216-D2219	D1FL40
	D2221, D2222	D1FL40
	D2201, D2206, D2211, D2220, D2225	RF2001T3D
	D2230	RF2001T3D
	D2210, D2224	UDZS16(B)
	COILS AND FILTERS	
	L2203, L2205	ATH1119
	L2202	ATH1155
	L2204	ATH1156
	L2201	LFEA470J
	CAPACITORS	
	C2212-C2214, C2226, C2227	ACE1175
	C2211, C2224 (100P/630V)	ACG1104
	C2210, C2223 (0.22UF/250V)	ACG1112
	C2238, C2240 (150P/630V)	ACG1120

Mark No.	Description	Part No.
	C2202, C2205, C2216, C2217	CCSRCH331J50
	C2236	CEHAT2R2M50
	C2203, C2218	CKSRYB105K6R3
	C2230, C2232, C2233, C2235	CKSSYB104K10
	C2201, C2208, C2215, C2219	CKSYB105K25
	RESISTORS	
	R2240, R2241	RS1/10S1003F
	R2244-R2247	RS1/10S100J
	R2260, R2261	RS1/10S220J
	R2205, R2211, R2213, R2220, R2221	RS1/10S2R2J
	R2253, R2265	RS1/10S2R2J
	R2234	RS1/16S1202F
	R2235	RS1/16S3301F
	R2233	RS1/16S5601F
	R2242	RS1/16S8201F
	R2215, R2230	RS1MMF101J
	R2256, R2259	RS2MMF220J
	VR2201-VR2204	CCP1390
	Other Resistors	RS1/16S###J
	OTHERS	
	2201 DRIVE HEATSINK	ANH1628
	2201 SCREW	PMH30P080FTC
	[50 Y SUS BLOCK]	
	SEMICONDUCTORS	
	IC2302	HCPL-M611
	IC2305	NJM2872F05
	IC2303, IC2307	STK795-513A
	IC2310	TC7SH04FU
	IC2301, IC2304	TND301S
	IC2311	TND307TD
	Q2313	2SA1727
	Q2310	2SC4081
	Q2303	2SD1898
	Q2302	2SK3325-Z
	Q2312	2SK3403
	Q2309	HN1B04FU
	D2322	1SS302
	D2312, D2325	1SS355
	D2324	D1FL40
	D2319	EC10QS04
	D2320	RF051UA1D
	D2323	UDZS16(B)
	D2306	UDZS5R6(B)
	COILS AND FILTERS	
	L2306, L2307	ATH1112
	L2304, L2309	LFEA100J
	L2308	LFEA101J
	L2301, L2302, L2305	LFEA470J
	CAPACITORS	
	C2309-C2311, C2327, C2329, C2330	ACE1163
	C2314	ACE1165
	C2346 (0.33/100V)	ACG1118
	C2336	ACH1393
	C2316, C2331	ACH1415
	C2303, C2342	ACH1416
	C2343	CCSRCH102J50
	C2306	CEHAT221M25
	C2308, C2324, C2339, C2340, C2349	CEHAT470M16

Mark No.	Description	Part No.
	C2304, C2320, C2338, C2348	CEHAT470M25
	C2305, C2322, C2323, C2325, C2341	CKSRYB104K16
	C2347	CKSRYB105K6R3
	C2301, C2307, C2344	CKSRYF104Z50

RESISTORS

	R2332	ACN1166
	R2364, R2365	ACN1174
	R2367	RS1/10S0R0J
	R2368	RS1/10S151J
	R2309	RS1MMF132J
	R2310, R2311	RS1MMF472J
	R2312, R2313, R2322, R2325	RS3LMF100J
	R2348, R2352, R2358, R2359	RS3LMF1R8J
	Other Resistors	RS1/16S###J

OTHERS

	KN2301-KN2305, KN2310, KN2312	ANK-142
	KN2314, KN2316 GROUND PLATE	ANK-142
	CN2301 CONNECTOR	B11B-EH

[50 Y D-DCON BLOCK]

SEMICONDUCTORS

	IC2406	BA10358F
	IC2401	MIP2E3DMC
	IC2402-IC2405, IC2407, IC2409	PS2701A-1(L)
	IC2410-IC2412	TA76431FR
	Q2402, Q2407	2SA1037K
	Q2410	2SA1163
	Q2417	2SA2005
	Q2405	2SC2713
	Q2411-Q2413, Q2416, Q2419	2SC4081
	Q2403	2SD1664
	Q2401, Q2404	2SD1898
	Q2415	HN1C01FU
	D2430	1SS301
	D2410, D2419, D2436	1SS302
	D2409, D2418	1SS355
	D2402	D1FK70
	D2404-D2407	D1FL20U(S)
	D2414	D1FL40
	D2403	EC8FS6
	D2401	U1ZB330
	D2412, D2413, D2422	UDZS15(B)
	D2437, D2438	UDZS33(B)
	D2432	UDZS4R3(B)
	D2423, D2431	UDZS5R6(B)

COILS AND FILTERS

⚠	T2402	ATK1156
⚠	T2403	ATK1157
⚠	T2401	ATK1158
	L2402	LFEA100J
	L2401	LFEA101J
	L2403	LFEA470J

CAPACITORS

	C2406	ACH1360
	C2401	ACH1361
	C2427	CEHAT100M50
	C2403	CEHAT101M16
	C2405, C2407, C2417	CEHAT101M25
	C2414	CEHAT221M16
	C2410	CEHAT221M25
	C2411	CEHAT331M25
	C2420	CEHAT470M2A
	C2409, C2419	CKSRYB103K50
	C2402, C2412, C2413, C2423, C2425	CKSRYB104K16
	C2434-C2436, C2441-C2444	CKSRYB104K16
	C2415, C2421, C2428	CKSRYB105K6R3
	C2404, C2408, C2416, C2418, C2426	CKSRYF104Z50
	C2429	CKSRYF104Z50

RESISTORS

	R2429	ACN1225
	R2435, R2439	RS1/10S2202F
	R2402-R2404	RS1/10S3902F
	R2442	RS1/16S1201F
	R2468	RS1/16S1202F
	R2424	RS1/16S2001F
	R2420, R2427, R2438	RS1/16S2201F
	R2451	RS1/16S2202F
	R2467	RS1/16S3301F
	R2452, R2453	RS1/16S3302F
	R2457-R2460	RS1/16S4701F
	R2506	RS3LMF151J
	VR2401, VR2402	CCP1390
	Other Resistors	RS1/16S###J

OTHERS

	2401 HEATSINK	ANH1614
	2401 SCREW	BBZ30P080FTC

POWER SUPPLY UNIT

This assembly has no service part.

6. ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

6.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	No adjustment required
DIGITAL VIDEO Assy	Writing of backup data is required. Refer to the "7.1.7 BACKUP WHEN THE MAIN UNIT IS ADJUSTED. "
50 X DRIVE Assy	No adjustment required
50 Y DRIVE Assy	No adjustment required
Service Panel	Refer to the "6.4 METHOD FOR REPLACING THE SERVICE PANEL ASSY."
Other assemblies	No adjustment required

■ When any part in the following assemblies is replaced

POWER SUPPLY Unit	The assembly must be replaced as a unit, and no part replacement is allowed.
DIGITAL VIDEO Assy	No adjustment required
50 X DRIVE Assy (IC1101, IC1102)	Refer to the "6.2 DRIVE ASSY ADJUSTMENT."
50 Y DRIVE Assy (IC2201, IC2202)	Refer to the "6.2 DRIVE ASSY ADJUSTMENT."
Other assemblies	No adjustment required

6.2 DRIVE ASSY ADJUSTMENT

■ How to readjust the timing of the control signals when the DRIVE Assy TND506MD is to be replaced

As there is a large difference in delay time among the individual TND506MDs, timing adjustment has been made on each TND506MD in the unit process. If the TND506MD is replaced on the X or Y Drive Assy, readjustment of the timing of the control signals is required.

Assy	Replaced IC	Signal for which Readjustment is Required
X DRIVE	IC1101	XSUS-U2 & XSUS-D2
	IC1102	XSUS-U1 & XSUS-D1
Y DRIVE	IC2201	YSUS-U1 & YSUS-D1
	IC2202	YSUS-U2 & YSUS-D2

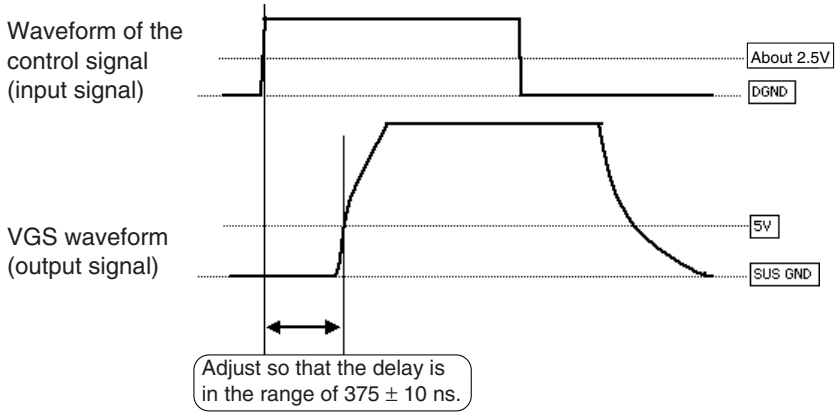
• How to adjust

Adjust the timing between the startup of the control signals of SUS-U1, SUS-D1, SUS-U2, and SUS-D2 and the startup of the voltage between the gate and the source of the output FET, with the VR resistors that are inserted in the signal line in series. When adjusting, set the unit to Drive OFF mode, and Vsus to 0 V. (For details on how to set to Drive OFF mode, see "7.1.6 Power on/off function for the large-signal system".)

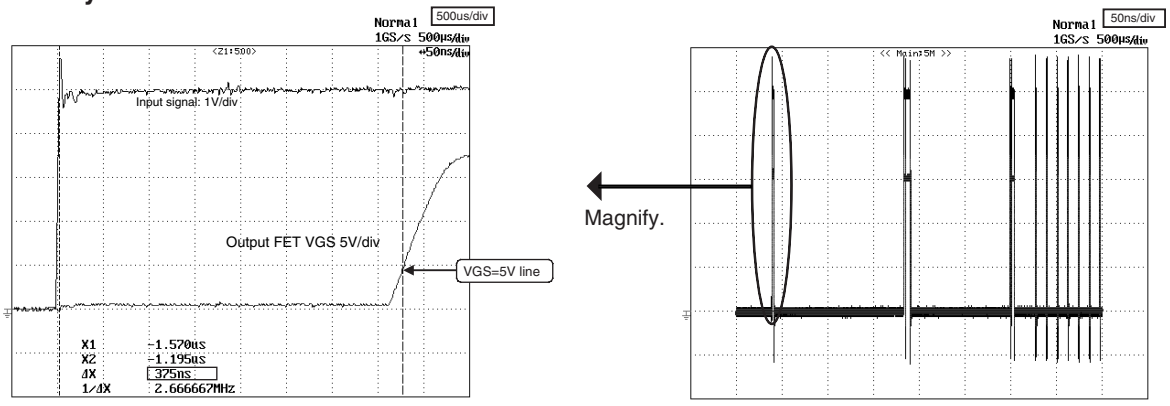
• Specified values for adjustment and adjustment points

		X DRIVE			Y DRIVE		
Signal Name	Set Value for Delay Time	Input Signal	Output Signal	Adjustment VR	Input Signal	Output Signal	Adjustment VR
SUS-U1	375ns ± 10ns	K1005	Q1108	VR1103	K2025	Q2202	VR2201
SUS-D1	375ns ± 10ns	K1009	Q1112	VR1104	K2027	Q2205	VR2202
SUS-U2	375ns ± 10ns	K1008	Q1103	VR1101	K2022	Q2208	VR2203
SUS-D2	375ns ± 10ns	K1006	Q1105	VR1102	K2024	Q2212	VR2204

Note: Connect GND of the probe with DGND (DGND: X Drive Assy: K1020, Y Drive Assy: K2010) for input signal.
For outputting a signal, obtain a signal from the FET gate terminal.
For adjustment, magnify any pulse in the waveform.


Waveform of the control signal (input signal)
About 2.5V
DGND
VGS waveform (output signal)
5V
SUS GND
Adjust so that the delay is in the range of 375 ± 10 ns.

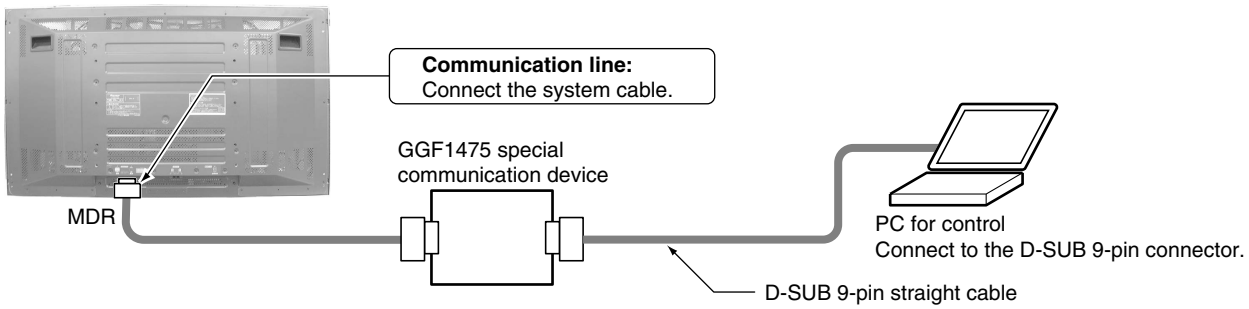
• Actually measured waveforms



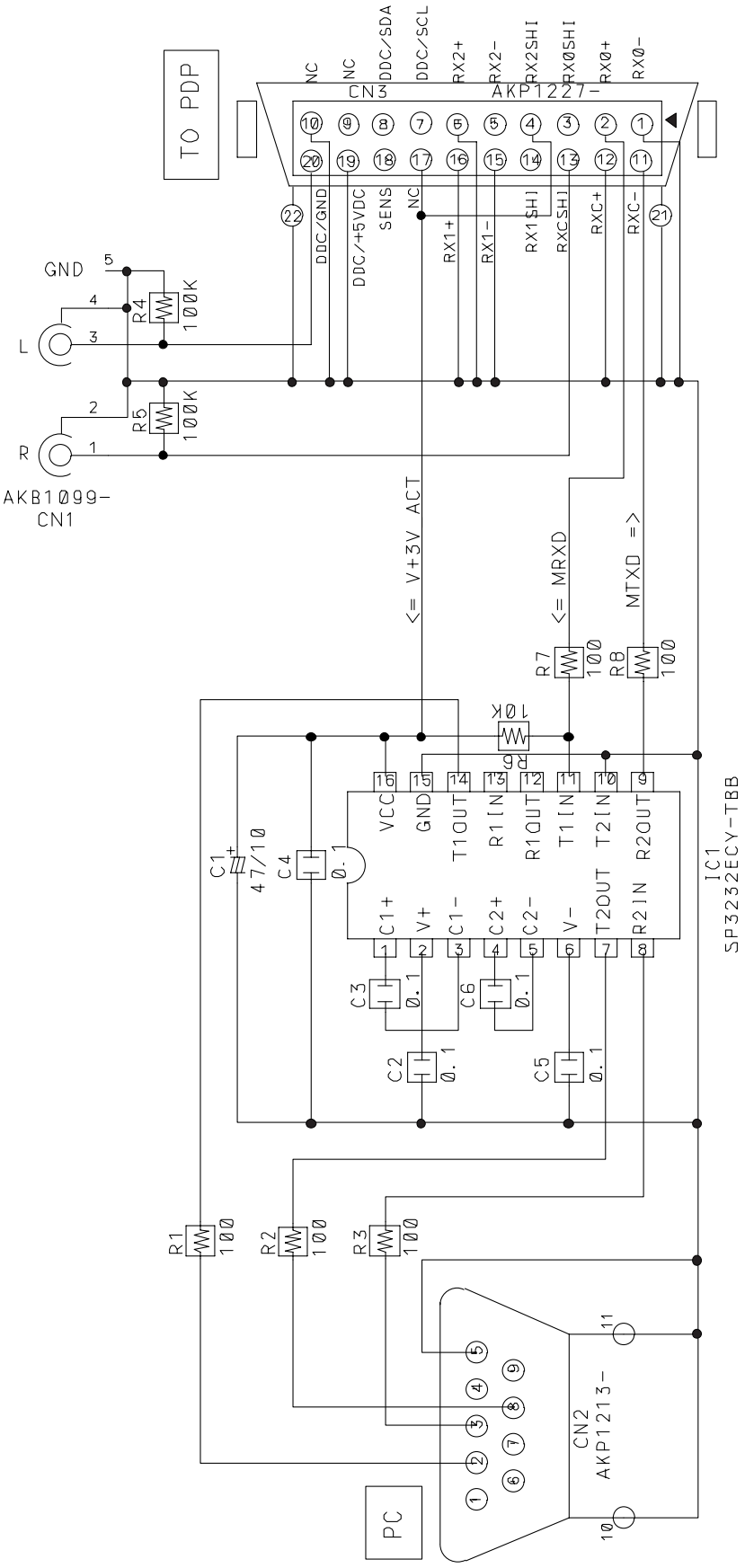
6.3 COMMAND

6.3.1 RS232C COMMAND

■ Connection



• Schematic diagram of the special communication device



• RS-232C Commands for the module microcomputer

Command Name		Function	Validity of direct numeric input		
			Validity	Lower limit	Upper limit
[A]					
ABL	ABL ADJUSTMENT	Adjusting the upper limit of the power	○	000	255
ABN	PEAK ABL NO	Peak ABL function OFF			
ABY	PEAK ABL YES	Peak ABL function ON			
AMN	AUDIO MUTE NO	Turning off the audio muting			
AMY	AUDIO MUTE YES	Turning on the audio muting			
[B]					
BAL	BALANCE ADJUSTMENT	Adjusting the audio balance	○	98	158
BAS	BASS ADJUSTMENT	Adjusting the audio bass	○	121	135
BCP	BACKUP COPY	Copying the backup data in the EEPROM			
[C]					
CHM	CLEAR HOUR METER	Clearing data of the hour meter			
CPD	CLEAR POWER DOWN	Clearing power-down information			
CPM	CLEAR PLUSE METER	Clearing data of the pulse meter			
CSD	CLEAR SHUT DOWN	Clearing shutdown information			
[D]					
DRF	DRIVE OFF	Driving off			
DRN	DRIVE ON	Driving on			
[F]					
F50	FREQENCY VIDEO 50Hz	Setting the frequency in Mask mode to 50 Hz (VIDEO)			
F60	FREQENCY VIDEO 60Hz	Setting the frequency in Mask mode to 60 Hz (VIDEO)			
F61	FREQENCY PC 60Hz	Setting the frequency in Mask mode to 60 Hz (PC)			
F70	FREQENCY PC 70Hz	Setting the frequency in Mask mode to 70 Hz (PC)			
F72	FREQENCY VIDEO 72Hz	Setting the frequency in Mask mode to 72 Hz (VIDEO)			
F75	FREQENCY 75Hz	Setting the frequency in Mask mode to 75 Hz (VIDEO)			
FAJ	FINISH ADJUSTMENT	Determining the flag of the DIGITAL VIDEO Assy adjustment in "adjustment is completed"			
FCN	FOCUS NO	Turning the FOCUS function off			
FCY	FOCUS YES	Turning the FOCUS function on			
[G]					
GAJ	GET ADJUSTMENT	Obtaining various adjustment values			
GNP	GET NUMBER PANEL	Obtaining the serial no. of the panel			
GPD	GET POWER-DOWN	Obtaining the power-down-point log			
GPW	GET PANEL WHITE BALANCE	Obtaining the panel white-balance adjustment values			
GS1	GET STATUS 1	Obtaining information on the unit, such as the software version			
GS2	GET STATUS 2	Obtaining information on the status of the unit, such as the temperature			
GSD	GET SHUT DOWN	Obtaining information on shutdown			
[M]					
M00	MASK MODE 0	Turning the Mask function off			
M01	MASK MODE 1	White raster (change in luminance level)			
M02	MASK MODE 2	White raster--zigzag, exact reverse--scan--gray--white raster			
M03	MASK MODE 3	HL--zigzag, exact reverse--scan--gray--white raster			
M04	MASK MODE 4	White raster--zigzag, exact reverse--scan--gray--white raster			
M10	MASK MODE 10	H ramp (slant 1)			
M11	MASK MODE 11	H ramp (slant 4)			
M12	MASK MODE 12	H ramp (slant 1 shifting)			
M13	MASK MODE 13	H ramp (slant 4 shifting)			
M14	MASK MODE 14	V ramp (slant 1)			
M15	MASK MODE 15	Slanting ramp			
M20	MASK MODE 20	Window (for WB adjustment, Hi = 870, Lo = 102)			
M21	MASK MODE 21	Window (for WB adjustment, Hi = 1023, Lo = 102)			
M22	MASK MODE 22	Window (for measuring the peak luminance during WB adjustment, Hi = 1023)			
M23	MASK MODE 23	Window (for measuring the peak luminance, Hi = 1023, 4%)			
M24	MASK MODE 24	Window (for measuring the peak luminance, Hi = 1023, 1.25%)			
M25	MASK MODE 25	Window (vertical line with 1/7-width for measuring the stress)			
M26	MASK MODE 26	Window (magenta, green, and stripe for check)			
M27	MASK MODE 27	Window (green,magenta, and stripe for check)			
M28	MASK MODE 28	Window (black & white [1 x 8], checker, for EMG check)			
M29	MASK MODE 29	Window (for WB adjustment, magenta = 512, yellow = 512)			
M2E	MASK MODE 2E	Wiper for erasing afterimage			
M2F	MASK MODE 2F	Mask for warning of cable disconnection			
M30	MASK MODE 30	ColorBar			
M31	MASK MODE 31	Slanted lines (for checking cable disconnection)			
M51	MASK MODE 51	Raster-white			
M52	MASK MODE 52	Raster-red			
M53	MASK MODE 53	Raster-green			
M54	MASK MODE 54	Raster-blue			
M55	MASK MODE 55	Raster-black			
M56	MASK MODE 56	Raster-cyan 1023			
M57	MASK MODE 57	Raster-magenta 1023			

Command Name		Function	Validity of direct numeric input		
			Validity	Lower limit	Upper limit
[M]					
M58	MASK MODE 58	Raster-yellow 1023			
M59	MASK MODE 59	Raster-cyan 274			
M60	MASK MODE 60	Raster-flesh color_50			
M61	MASK MODE 61	Raster-light purple_50			
M62	MASK MODE 62	Raster-sky blue_50			
M63	MASK MODE 63	Raster-red 779			
M64	MASK MODE 64	Raster-cyan 218			
M65	MASK MODE 65	Raster-cyan 448			
M66	MASK MODE 66	Raster-flesh color_43			
M67	MASK MODE 67	Raster-red 640			
M68	MASK MODE 68	Raster-magenta 98			
M69	MASK MODE 69	Raster-sky blue 1_43			
M70	MASK MODE 70	Raster-sky blue 2_43			
M71	MASK MODE 71	Raster-light purple_43			
M72	MASK MODE 72	Raster-blue 960			
M73	MASK MODE 73	Raster-yellow 512			
M74	MASK MODE 74	Raster-gray 512 (reservation)			
MTN	MUTE NO	Canceling panel muting			
MTY	MUTE YES	Panel muting			
[N]					
NGN	NG NO	SD function off			
NMN	NEGATIVE MODE NO	Canceling negative-positive inversion display			
NMY	NEGATIVE MODE YES	Negative-positive inversion display			
[P]					
PBH	PANEL BLUE HIGH	Panel white-balance adjustment: Blue highlight	○	000	511
PBL	PANEL BLUE LOW	Panel white-balance adjustment: Blue low light	○	000	999
PCN	PC RGB NO	Setting input-signal type to video			
PCY	PC RGB YES	Setting input-signal type to PC			
PDN	POWER DOWN NO	The PD signal is not passed through the POWER SUPPLY Assy.			
PDY	POWER DOWN YES	The PD signal is passed through the POWER SUPPLY Assy.			
PGH	PANEL GREEN HIGH	Panel white-balance adjustment: Green highlight	○	000	511
PGL	PANEL GREEN LOW	Panel white-balance adjustment: Green low light	○	000	999
PLA	BRIGHT ENHANCE A	Center luminance-compensation function on (no correspondence with APL)			
PLB	BRIGHT ENHANCE B	Center luminance-compensation function on (in correspondence with APL, pattern 1)			
PLC	BRIGHT ENHANCE C	Center luminance-compensation function on (in correspondence with APL, pattern 2)			
PLN	BRIGHT ENHANCE NO	Center luminance-compensation function off			
PMB	PANEL MAIN BRIGHTNESS	Panel white-balance adjustment: Main brightness		000	999
PMC	PANEL MAIN CONTRAST	Panel white-balance adjustment: Main contrast		000	511
POF	POWER OFF	Power off			
PON	POWER ON	Power on			
PRH	PANEL RED HIGH	Panel white balance adjustment-red highlight	○	000	511
PRL	PANEL RED LOW	Panel white-balance adjustment: Red low light	○	000	999
[S]					
SCN	SYSTEM CABLE NO	Prohibiting monitoring of cable-disconnection detection			
SCY	SYSTEM CABLE YES	Permitting monitoring of cable-disconnection detection			
SPN	SCAN PROTECT NO	SCAN IC protection process OFF			
SPY	SCAN PROTECT YES	SCAN IC protection process ON			
SRN	SRS NO	SRS function off			
SRY	SRS YES	SRS function on			
[T]					
TBN	TRUBASS NO	TruBass function off			
TBY	TRUBASS YES	TruBass function on			
TRE	TREBLE ADJUSTMENT	Audio treble adjustment	○	121	135
[U]					
UAJ	UN-ADJUSTMENT	Determining the flag for the DIGITAL VIDEO Assy adjustment in "not adjusted"			
[V]					
VOF	Vofs ADJUSTMENT	Vofs voltage reference-value adjustment	○	000	255
VOL	VOLUME	Audio volume adjustment	○	000	060
VSU	Vsus ADJUSTMENT	Vsus voltage reference-value adjustment	○	000	255
[W]					
WA1	WB APL 1	Setting the APL-interlocking pattern for white balance to 1.			
WA2	WB APL 2	Setting the APL-interlocking pattern for white balance to 2.			
WA3	WB APL 3	Setting the APL-interlocking pattern for white balance to 3.			
WA4	WB APL 4	Setting the APL-interlocking pattern for white balance to 4.			
WAN	WB APL NO	Setting the APL-interlocking for white balance to OFF.			
WAY	WB APL YES	Setting the APL-interlocking for white balance to ON.			
WIN	WB INITIALIZE NO	Panel White-Balance Initialization mode OFF			
WIY	WB INITIALIZE YES	Panel White-Balance Initialization mode ON			

Command Name		Function	Validity of direct numeric input		
			Validity	Lower limit	Upper limit
[X]					
XD1	XSUS-D-1	XSUS-D-1 adjustment	○	000	255
XD2	XSUS-D-2	XSUS-D-2 adjustment	○	000	255
XU1	XSUS-U-1	XSUS-U-1 adjustment	○	000	255
XU2	XSUS-U-2	XSUS-U-2 adjustment	○	000	255
[Y]			○	000	255
YD1	YSUS-D1-1	YSUS-D1-1 adjustment			
YD2	YSUS-D1-2	YSUS-D1-2 adjustment	○	000	255
YD3	YSUS-D2-1	YSUS-D2-1 adjustment	○	000	255
YD4	YSUS-D2-2	YSUS-D2-2 adjustment	○	000	255
YU1	YSUS-U-1	YSUS-U-1 adjustment	○	000	255
YU2	YSUS-U-2	YSUS-U-2 adjustment	○	000	255

■ Command description

Command	Function
GAJ	Obtaining various adjustment values
GNP	Obtaining serial number of the panel side
GPD	Obtaining power-down-point log
GPW	Obtaining panel white-balance adjustment values
GS1	Obtaining information on the unit, such as the software version
GS2	Obtaining information on the status of the unit
GSD	Obtaining information on shutdown

GAJ: Obtaining data on ABL setting values, electronic-control adjustment values, and drive-system adjustment values

Order	Data	Size	Remarks
1	ABL table currently used	3 bytes	AB1 - AB3
2	ABL adjustment value	3 bytes	000 - 255
3	Vsus adjustment value	3 bytes	000 - 255
4	Vofs adjustment value	3 bytes	000 - 255
5	X-SUS-U1 adjustment value (XU1)	3 bytes	000 - 255
6	X-SUS-U2 adjustment value (XU2)	3 bytes	000 - 255
7	X-SUS-D2 adjustment value (XD2)	3 bytes	000 - 255
8	X-SUS-D1 adjustment value (XD1)	3 bytes	000 - 255
9	Y-SUS-U1 adjustment value (YU1)	3 bytes	000 - 255
10	Y-SUS-U2 adjustment value (YU2)	3 bytes	000 - 255
11	Y-SUS-D1-2 adjustment value (YD2)	3 bytes	000 - 255
12	Y-SUS-D1-1 adjustment value (YD1)	3 bytes	000 - 255
13	Y-SUS-D2-2 adjustment value (YD4)	3 bytes	000 - 255
14	Y-SUS-D2-1 adjustment value (YD3)	3 bytes	000 - 255

Note: Ignore the 2-byte checksum at the end.

GNP: Obtaining serial number of the panel side

Order	Data	Size	Remarks
1	Panel serial number	15 bytes	Alphanumeric, space, underbar, slash

Note: Ignore the 2-byte checksum at the end.

GPD: Obtaining power-down-point log on the panel

Order	Data	Size	Remarks
1	Latest "1st PD" data	1 byte	0-D or F
2	Latest "2nd PD" data	1 byte	0-D or F
3	Data of hour meter for the latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
4	Data on temperature for the latest PD (TEMP1)	3 bytes	000 - 255
5	Second latest "1st PD" data	1 byte	0-D or F
6	Second latest "2nd PD" data	1 byte	0-D or F
7	Data of hour meter for the second latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
8	Data on temperature for the second latest PD (TEMP1)	3 bytes	000 - 255
9	Third latest "1st PD" data	1 byte	0-D or F
10	Third latest "2nd PD" data	1 byte	0-D or F
11	Data of hour meter for the third latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
12	Data on temperature for the third latest PD (TEMP1)	3 bytes	000 - 255
13	Fourth latest "1st PD" data	1 byte	0-D or F
14	Fourth latest "2nd PD" data	1 byte	0-D or F
15	Data of hour meter for the fourth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
16	Data on temperature for the fourth latest PD (TEMP1)	3 bytes	000 - 255
17	Fifth latest "1st PD" data	1 byte	0-D or F
18	Fifth latest "2nd PD" data	1 byte	0-D or F
19	Data of hour meter for the fifth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
20	Data on temperature for the fifth latest PD (TEMP1)	3 bytes	000 - 255
21	Sixth latest "1st PD" data	1 byte	0-D or F
22	Sixth latest "2nd PD" data	1 byte	0-D or F
23	Data of hour meter for the sixth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
24	Data on temperature for the sixth latest PD (TEMP1)	3 bytes	000 - 255
25	Seventh latest "1st PD" data	1 byte	0-D or F
26	Seventh latest "2nd PD" data	1 byte	0-D or F
27	Data of hour meter for the seventh latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
28	Data on temperature for the seventh latest PD (TEMP1)	3 bytes	000 - 255
29	Eighth latest "1st PD" data	1 byte	0-D or F
30	Eighth latest "2nd PD" data	1 byte	0-D or F
31	Data of hour meter for the eighth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
32	Data on temperature for the eighth latest PD (TEMP1)	3 bytes	000 - 255

Notes: • Ignore the 2-byte checksum at the end.
• For details, see "Description on power-down."

• Description on power-down

Data	Power-down Point
0	No power-down
1	Not used (for MR-POWER)
2	Panel-POWER SUPPLY
3	SCAN
4	SCN-5V
5	Y-DRIVE
6	Y-DCDC
7	Y-SUS
8	ADR
9	X-DRIVE
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	IC4
E	Reservation
F	Power-down point unidentified

GPW: Obtaining panel white-balance adjustment values

Order	Data	Size	Remarks
1	W/B table currently used	3 bytes	PT1 - PT3
2	Main contrast	4 bytes	0000 - 0511
3	Red contrast of W/B adjustment value	4 bytes	0000 - 0511
4	Green contrast of W/B adjustment value	4 bytes	0000 - 0511
5	Blue contrast of W/B adjustment value	4 bytes	0000 - 0511
6	Main brightness	4 bytes	0000 - 1023
7	Red brightness of W/B adjustment value	4 bytes	0000 - 1023
8	Green brightness of W/B adjustment value	4 bytes	0000 - 1023
9	Blue brightness of W/B adjustment value	4 bytes	0000 - 1023

Note: Ignore the 2-byte checksum at the end.

GS1: Obtaining information on the unit, such as the software version

Order	Data	Size
1	Display data	3 bytes
2	Version of the module microcomputer	4 bytes
3	IC4-MANTA version	4 bytes
4	Sequence version (43VIDEO)	4 bytes
5	Sequence version (43PC)	4 bytes
6	Sequence version (50VIDEO)	4 bytes
7	Sequence version (50PC)	4 bytes

Notes: • Ignore the 2-byte checksum at the end.
• If a Media Receiver (MR) is connected, the version of the microcomputer inside the MR is displayed at the end. (Refer to the service manual of the Media Receiver.)

(Reference) GS2: Obtaining information on the status of the unit

Order	Data	Size	Remarks
1	Notifying that the unit is shifting to Standby mode	1 byte	1: OK for shifting to Standby
2	Whether or not the main unit has been adjusted	1 byte	0: Adjusted, 1: Not adjusted
3	With/without backup for adjustment values	1 byte	0: With backup, 1: Without backup
4	Data on power-down	2 bytes	1st byte: 1st PD, 2nd byte: 2nd PD
5	Data on temperature (TEMP1)	3 bytes	000 - 255
6	Abnormality in RST2 (power decrease of DC-DC converter)	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
7	IC4 communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
8	EEPROM communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
9	Audio failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
10	Volume IC communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
11	Backup ROM communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
12	Data on temperature (TEMP1) not obtained	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
13	Operational status of panel protection mechanism	1 byte	0: Protection mechanism not activated, 1: Protection mechanism activated
14	Reservation	2 bytes	**
15	Accumulated time of cleared hour-meter (*1)	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
16	Hour-meter (clearable) (*2)	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute

Notes: • Ignore the 2-byte checksum at the end.
• The data expected to be used for service may be "5. Data on temperature" and "15,16. Hour meter".
(*1) Each time hour-meter data are cleared, the accumulated time data are updated. The total for data items 15 and 16 is the total power-on time after shipment. The accumulated time of cleared hour-meter data cannot be cleared.
(*2) The hour-meter data that indicate driving hours of the panel are displayed on the Factory menu. Upon shipment, the data are cleared.

GSD: Obtaining information on shutdown

Order	Data	Size	Remarks
1	Latest SD data	1 byte	0 - 5
2	Latest SD subcategory data	1 byte	0 - 3
3	Data of hour meter for the latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
4	Data on temperature for the latest SD (TEMP1)	3 bytes	000 - 255
5	Second latest SD data	1 byte	0 - 5
6	Second latest SD subcategory data	1 byte	0 - 3
7	Data of hour meter for the second latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
8	Data on temperature for the second latest SD (TEMP1)	3 bytes	000 - 255
9	Third latest SD data	1 byte	0 - 5
10	Third latest SD subcategory data	1 byte	0 - 3
11	Data of hour meter for the third latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
12	Data on temperature for the third latest SD (TEMP1)	3 bytes	000 - 255
13	Fourth latest SD data	1 byte	0 - 5
14	Fourth latest SD subcategory data	1 byte	0 - 3
15	Data of hour meter for the fourth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
16	Data on temperature for the fourth latest SD (TEMP1)	3 bytes	000 - 255
17	Fifth latest SD data	1 byte	0 - 5
18	Fifth latest SD subcategory data	1 byte	0 - 3
19	Data of hour meter for the fifth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
20	Data on temperature for the fifth latest SD (TEMP1)	3 bytes	000 - 255
21	Sixth latest SD data	1 byte	0 - 5
22	Sixth latest SD subcategory data	1 byte	0 - 3
23	Data of hour meter for the sixth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
24	Data on temperature for the sixth latest SD (TEMP1)	3 bytes	000 - 255
25	Seventh latest SD data	1 byte	0 - 5
26	Seventh latest SD subcategory data	1 byte	0 - 3
27	Data of hour meter for the seventh latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
28	Data on temperature for the seventh latest SD (TEMP1)	3 bytes	000 - 255
29	Eighth latest SD data	1 byte	0 - 5
30	Eighth latest SD subcategory data	1 byte	0 - 3
31	Data of hour meter for the eighth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
32	Data on temperature for the eighth latest SD (TEMP1)	3 bytes	000 - 255

Notes: • Ignore the 2-byte checksum at the end.
• For details, see "Description on shutdown".

• Description of shutdown

Data	Factors of shutdown
0	No abnormality
1	IC4
2	Module microcomputer IIC
3	Abnormality in RST2 (power decrease of DC-DC converter)
4	Panel having high temperature
5	Audio failure (speakers short-circuited)
6	Reservation
7	Reservation
8	Reservation
9	Reservation
A	Reservation
B	Reservation
C	Reservation
D	Reservation
E	Reservation
F	Reservation

• Module microcomputer IIC: Data on SD subcategory

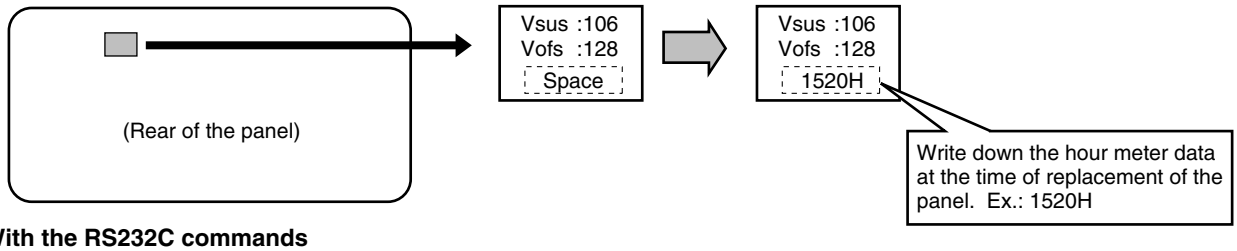
Data	Factors of shutdown
0	No subcategory
1	EEPROM (DIGITAL VIDEO Assy : IC5206)
2	EEPROM (PANEL IF Assy : IC4002)
3	Volume IC
4	Reservation
5	Reservation
6	Reservation
7	Reservation
8	Reservation
9	Reservation
A	Reservation
B	Reservation
C	Reservation
D	Reservation
E	Reservation
F	Reservation

6.4 METHOD FOR REPLACING THE SERVICE PANEL ASSY

The following adjustments and operations are required when the Panel Assy is replaced for servicing.

■ Adjustments of the Vsus and Vofs voltages

Input the reference adjustment values that are described on the service panel for the Vsus and Vofs voltages, with the RS232C commands or on the Factory menu.

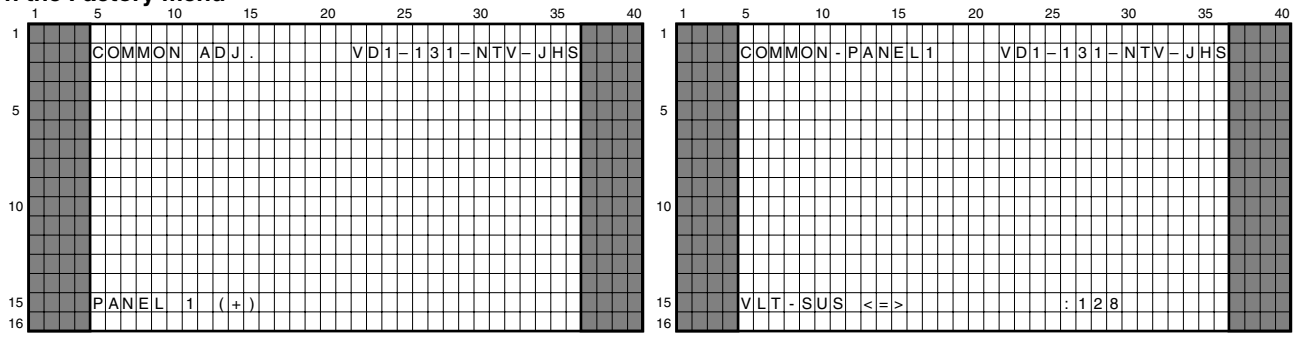


• With the RS232C commands

Input the adjustment values described on the label attached on the rear of the panel:

- Reference adjustment of the Vsus voltage : [VSU***] Ex. : [VSU106]
- Reference adjustment of the Vofs voltage : [VOF***] Ex. : [VOF128]

• On the Factory menu



Using the MUTE key, select the main item "COMMON ADJ." Select the subitem "PANEL 1" then "VLT-SUS" or "VLT-OFS," using the ▲ or ▼ key and SET key. Enter the value, using the ◄ or ► key.

■ Clearing various logs for the panel, such as that for the hour meter

It is necessary to clear various logs, such as that for the hour meter, to match the driving hours of the panel before and after replacement. Write down the hour-meter data at the time of replacement of the panel on the label attached to the rear of the panel.

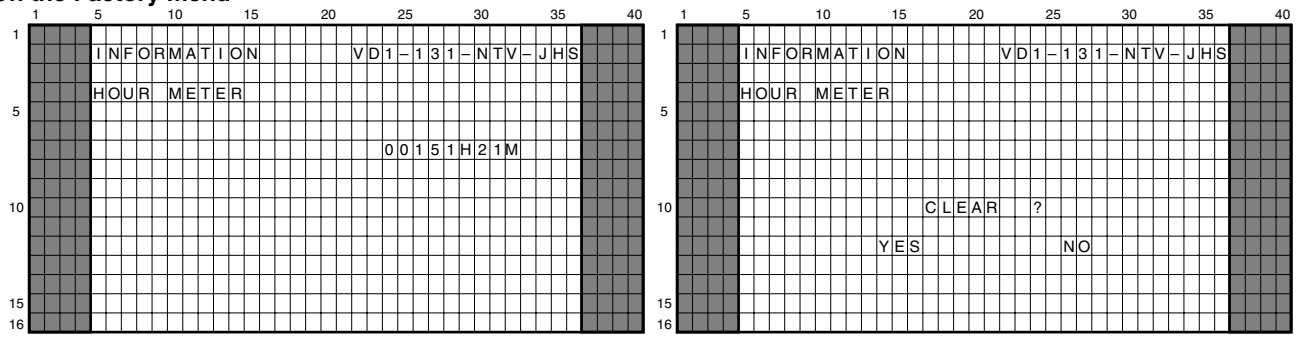
Notes: • For clearing, use the RS232C commands or the Factory menu.
• There are two hour meters. Be careful not to mistake the MR hour meter for the hour meter for the panel.

• With the RS232C commands

You can obtain the accumulated power-on time data of the product itself with the "GS2" RS232C command. (See "6.3 COMMANDS: Command description".)

1 For clearing the hour meter (for the panel) : CHM
2 For clearing the pulse meter : CPM
3 For clearing the shutdown (SD) log : CSD
4 For clearing the power-down (PD) log : CPD

• On the Factory menu

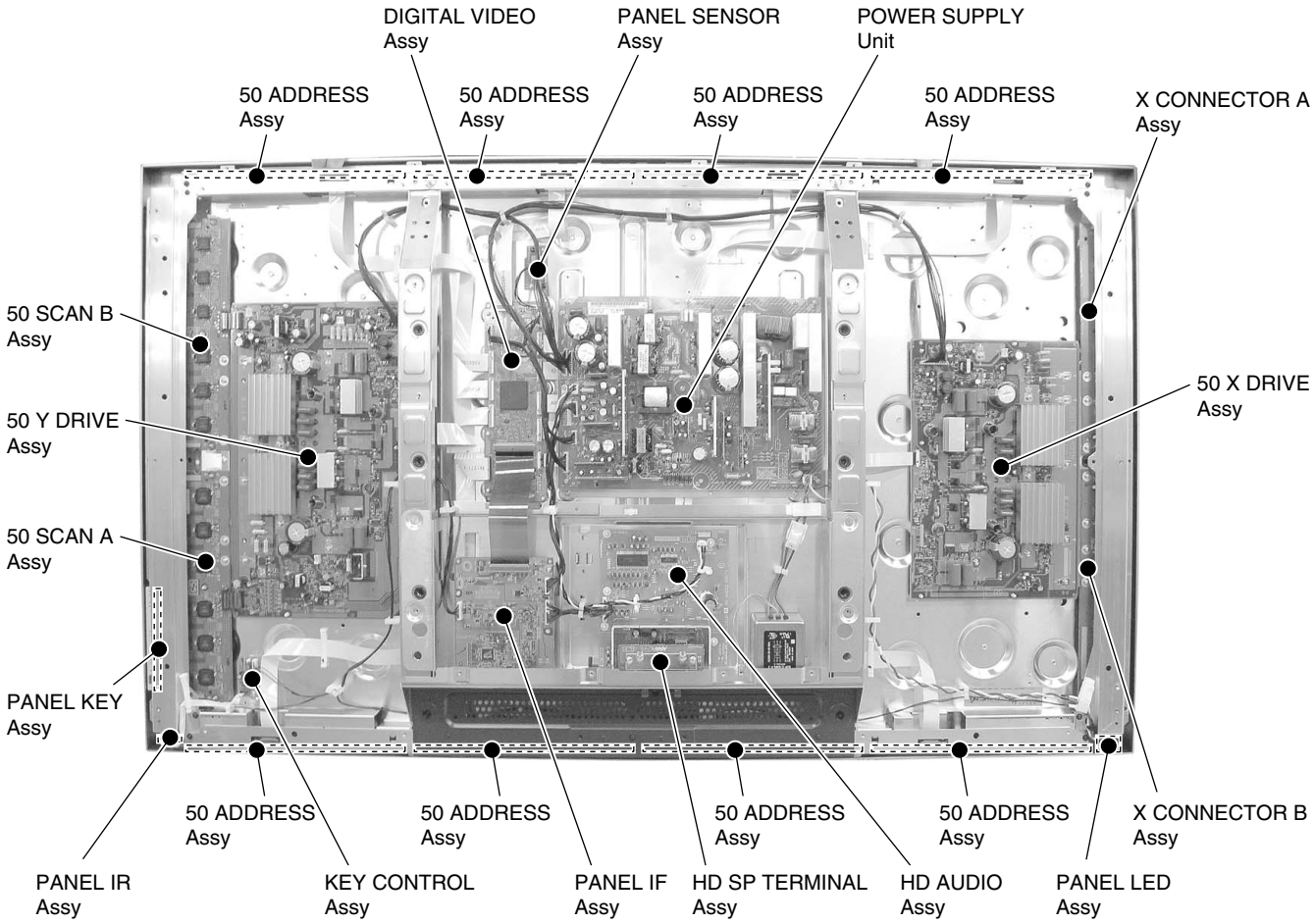


Using the MUTE key, select the main item "INFORMATION." Select the subitem "HOUR METER," using the ▲ or ▼ key and SET key. Clear the hour-meter data.
In the same way, select the subitem "PULSE METER," "PANEL SD," or "PANEL PD" under the main item "INFORMATION" then clear the data.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

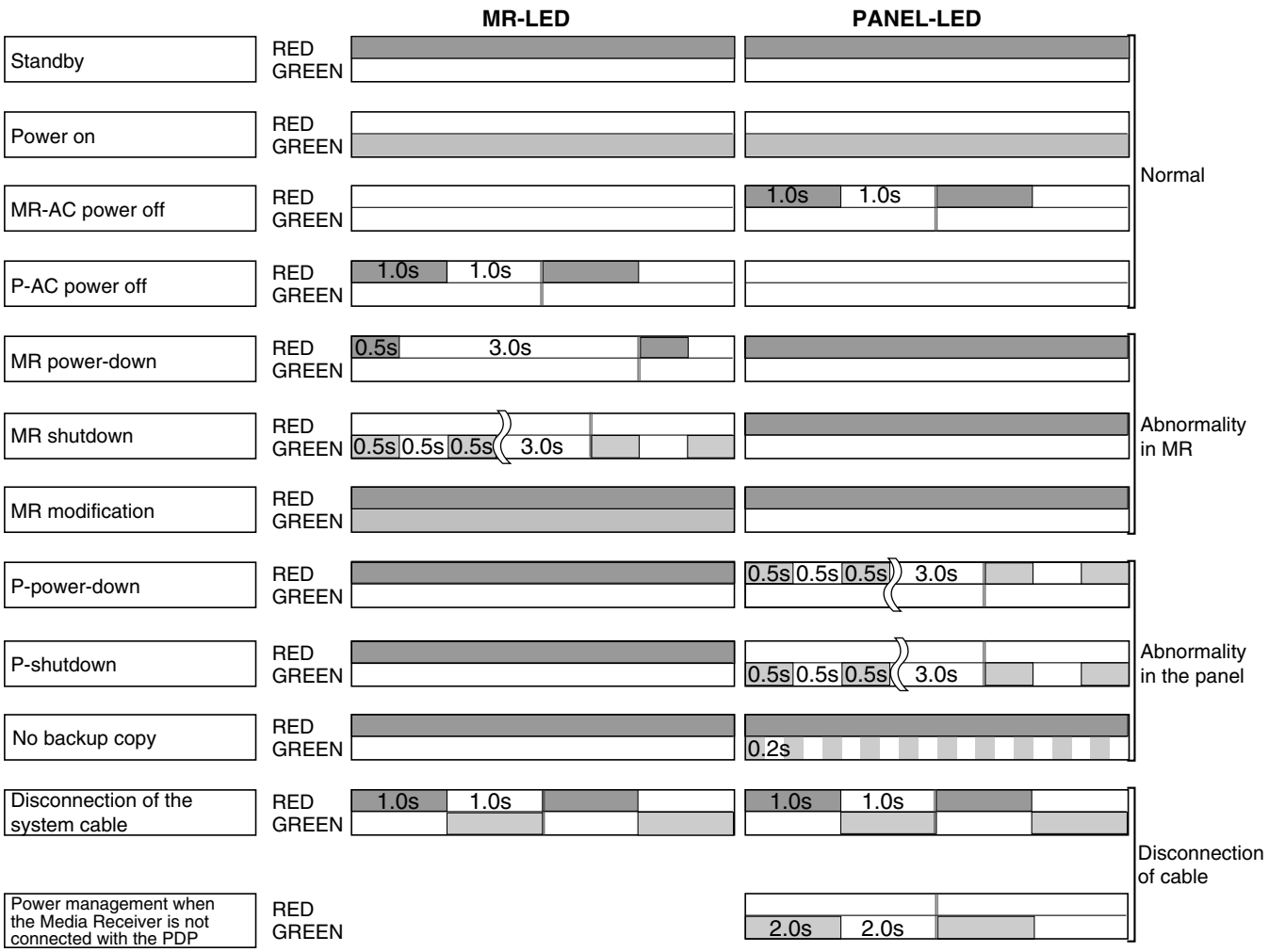
7.1.1 PCB LOCATION



● **Rear view**

7.1.2 DIAGNOSIS OF SHUTDOWN/POWER-DOWN INDICATED BY LEDS

• Operation statuses indicated by LEDs



Note: "P" stands for panel.

: Lit in red

: Lit in green

: Not lit

• Identification of locations having abnormality by the number of times the LEDs flash

■ On Shutdown and power-down

Shutdown

• Operation: When the microcomputer detects any abnormality, it forcibly turns off the unit.
• LED indication: The green LED flashes.

Power-down

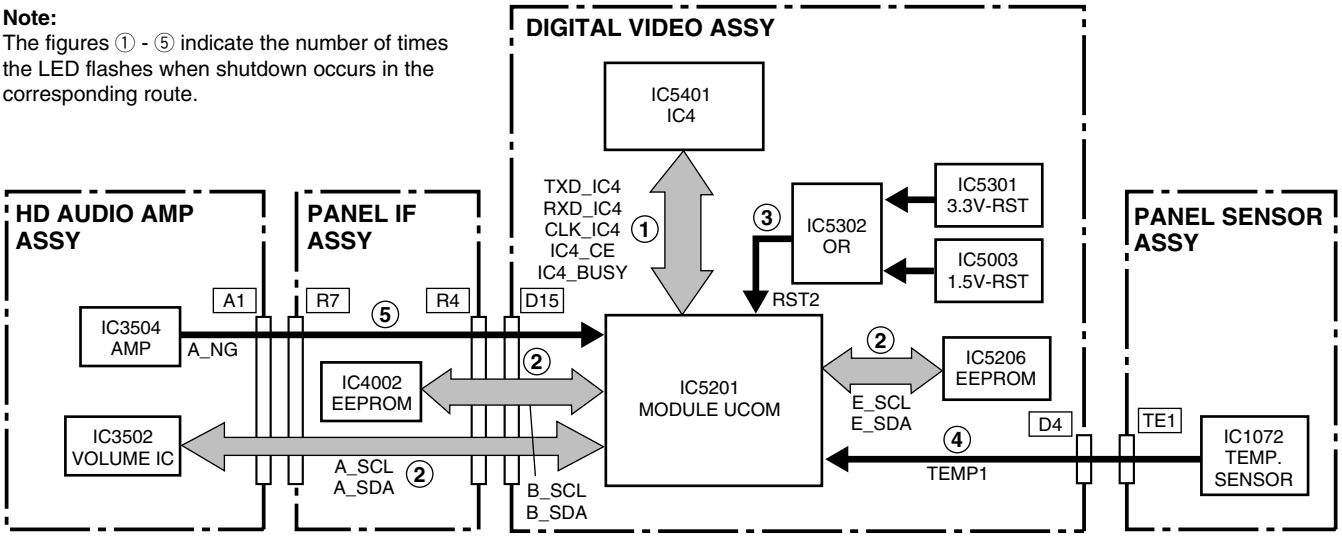
• Operation: When the unit is in emergency status, a protection circuit is activated, and the power is turned off.
• LED indication: The red LED flashes.

Category	MR-LED		PANEL-LED		Content	Unit's operation	Warning indication when the MR is connected
	STB	ON	STB	ON			
SD	Lit			1 time	Communication failure of the panel-drive IC	Immediate shutdown	
	Lit			2 times	Communication failure of the module IIC	Immediate shutdown	
	Lit			3 times	Power decrease of the digital DC-DC converter	Immediate shutdown	
	Lit			4 times	Panel having high temperature	Shutdown 30 seconds after warning	Powering off. Internal temperature is too high. Check temperature around PDP. [SD04]
	Lit			5 times	Audio failure	Shutdown 3 seconds after warning	Powering off. Internal protection circuits turns power off. Is the speaker cable short-circuited ? [SD05]
		6 times	Lit		Communication failure of the module microcomputer	Immediate shutdown	Is there a short in speaker cable ?
		7 times	Lit		Main 3-wire serial communication in failure	Immediate shutdown	
		8 times	Lit		Communication failure of the main IIC	Immediate shutdown	
		9 times	Lit		Communication failure of the main microcomputer	Immediate shutdown	
		10 times	Lit		Fan in failure	Immediate shutdown	
		11 times	Lit		MR or unit having higher temperature	Shutdown 30 seconds after warning	Powering off. Internal temperature is too high. Check temperature around media receiver. [SD11]
		12 times	Lit		Communication failure of the digital tuner	Immediate shutdown	
		13 times	Lit		MR-ASIC power (DC-DC) in failure	Immediate shutdown	
PD	1 time		Lit		MR power supply	Immediate power-down	
	Lit		2 times		Panel-POWER SUPPLY	Immediate power-down	
	Lit		3 times		SCAN	Immediate power-down	
	Lit		4 times		SCAN-5V	Immediate power-down	
	Lit		5 times		Y-DRIVE	Immediate power-down	
	Lit		6 times		Y-DCDC	Immediate power-down	
	Lit		7 times		Y-SUS	Immediate power-down	
	Lit		8 times		ADDRESS	Immediate power-down	
	Lit		9 times		X-DRIVE	Immediate power-down	
	Lit		10 times		X-DCDC	Immediate power-down	
	Lit		11 times		X-SUS	Immediate power-down	
	Lit		12 times		DIGITAL-DCDC	Immediate power-down	
	Lit		13 times		IC4 *	Immediate power-down	
	Lit		15 times		UNKNOWN **	Immediate power-down	

* If the power-down circuit for X-SUS/Y-SUS is activated because output of the drive waveform for IC4 is stopped, IC4-PD is displayed.
** If the unit cannot identify which protection circuit was activated, even if a power-down had been detected, the red LED may flash 15 times.

• Block diagram of the shutdown signal system

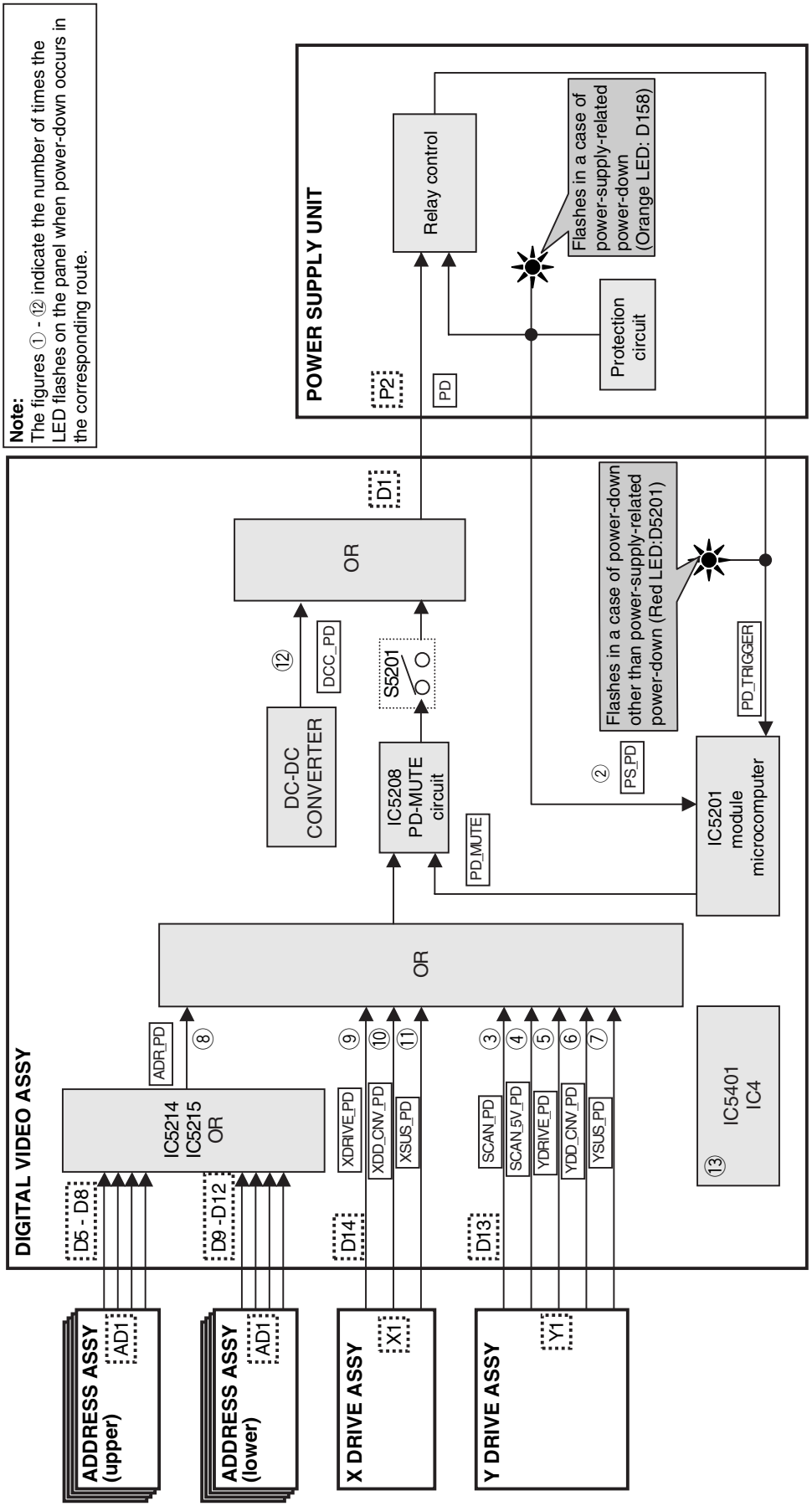
Note:
The figures ① - ⑤ indicate the number of times the LED flashes when shutdown occurs in the corresponding route.



• Diagnosis of shutdown

LED	SD Circuit in Operation	Defective Assy	Reason for Shutdown	Point to be Checked	Possible Defective Part	Remarks
1 time	Communication failure of the panel-drive IC	DIGITAL VIDEO	Communication failure of IC4	IC4 BLOCK, PANEL FLASH BLOCK	IC5401, IC5305	
			Writing failure of IC4			After turning the unit on again, check if the data on the version can be read with the GS1 command.
2 times	Communication failure of the module IIC (Check the shutdown subcategory on the Factory menu.)	DIGITAL VIDEO	Communication failure of the EEPROM (4K)	MODULE UCOM BLOCK	IC5206	
		PANEL IF	Communication failure of the EEPROM (2K)	PANEL IF BLOCK	IC4002	
			Disconnection of cable	CN4009 - CN3501		Check if the cable is disconnected or not securely connected.
			Defective 114-pin FPC	CN4004 - CN5001	ADY1081	Check if the 114-pin FPC is broken or not securely connected.
		HD AUDIO	Defective volume IC	HD AUDIO AMP Assy	IC3502	
3 times	Power decrease of DIGITAL-DC-DC	DIGITAL VIDEO	Defective DC-DC converter	DIGITAL DD CON BLOCK	U5602	Check if 3.3 V and 1.5 V are activated.
			Defective RST IC	PANEL FLASH BLOCK	IC5301, IC5302, IC5303	
		POWER SUPPLY	No startup of 12 V			
4 times	Panel having higher temperature	DIGITAL VIDEO	Cable disconnected	CN5202 - CN1071		
			Panel having higher temperature	Surrounding temperature		Shutdown occurs when the sensor temperature becomes 74°C or more (PDP-435PE) or 74°C or more (PDP-505PE).
5 times	Audio failure		Speaker short-circuited	Speaker terminals		Check if the speaker cables are in contact with the chassis, etc.
		HD AUDIO	Defective AMP IC	HD AUDIO AMP ASSY	IC3504	
		HD AUDIO	Disconnection of cable	CN4009 - CN3501		Check if the cable is disconnected or not securely connected.

• Block diagram of the power-down signal system



• Power-down diagnosis (defective points)

	PD Circuit in operation	Defective Assy	Reason for Power-down	Point to be Checked	Possible Defective Part	Remarks
1	MR POWER					
2	POWER	POWER SUPPLY Unit				If the elapsed time from relay-on until the LED in the power supply unit lights is about 2-4 seconds, the defective assembly may be the 50 X or Y DRIVE.
		50 X DRIVE Assy	VSUS UVP	X SUS BLOCK	IC1203, IC1207 (mask module)	
		50 Y DRIVE Assy	VSUS UVP	Y SUS BLOCK	IC2303, IC2307 (mask module)	
3	SCAN	50 SCANA, B Assy or Y 43 DRIVE Assy	VH UVP	SCAN IC	SCAN IC	
			VH UVP	VH DC/DC	IC2401, IC2402, IC2410, L2401	
			VH OVP	VH DC/DC	IC2402, IC2410	
			Disconnection of cable detected	CN2001, CN2301		
4	SCN-5V	50 SCANA, B Assy or Y 43 DRIVE Assy	Disconnection of cable detected	CN2101, CN2102, CN2301		
			IC5V UVP	SCAN IC, IC5V DC/DC Y SUS BLOCK	SCAN IC, Q2401, Q2402, IC2304,	
			IC5V OVP	IC5V DC/DC	IC2403, IC2411	
5	Y-DRIVE	50 Y DRIVE Assy	+16.5V OCP	Y SUS BLOCK	IC2303, IC2307 (mask module), IC2301, IC2304, IC2305, R2332	
6	Y-DCDC	50 Y DRIVE Assy	VOFS UVP	VOFS DC/DC	IC2404, IC2412, Q2404, Q2407, Q2312	
			VOFS OVP	VOFS DC/DC	IC2404, IC2412	
7	Y-SUS	50 Y DRIVE Assy	Power-down caused by detection of middle-point voltage	Y RESONANCE BLOCK	Q2202, Q2203, Q2214, Q2205, Q2206, Q2208, Q2209, Q2212, IC2201, IC2202, D2201, D2206, D2220, D2211, D2225, D2230, Control signal series resistors	
8	ADRS	50 ADDRESS Assy	Disconnection of cable detected	CN1501		
			Power-down caused by detection of a power surge	ADR RESONANCE BLOCK	R1631, Q1601, D1602	
9	X-DRIVE	50 X DRIVE Assy	Disconnection of cable detected	CN1001, CN1201		
			+16.5V OCP	X SUS BLOCK	IC1203, IC1207 (mask module), IC1204, IC1206, R1230, IC1205	
			VRN OCP	X SUS BLOCK	Q1205, R1226, R1251	
10	X-DCDC	50 X DRIVE Assy	VRN OVP	VRN DC/DC	IC1403, IC1404	
			VRN UVP	VRN DC/DC	IC1402, IC1403, IC1404	
				X SUS BLOCK	Q1205, R1226, R1251	
11	X-SUS	50 X DRIVE Assy	Power-down caused by detection of middle-point voltage	X RESONANCE BLOCK	Q1102, Q1103, Q1114, Q1105, Q1108, Q1109, Q1111, Q1112, IC1101, IC1102, D1103, D1113, D1118, D1125, D1129, D1130, Control signal series resistors	
12	DIG-DCDC	DIGITAL VIDEO Assy	DCDC +3.3V, +1.5V OVP	DC DC CONVERTER BLOCK	U5602 (DC DC CONVERTER Module)	
13	IC4	DIGITAL VIDEO Assy	IC4 Drive STOP	IC4 BLOCK	IC5401	

OVP: **O**ver **V**oltage **P**rotection UVP: **U**nder **V**oltage **P**rotection OCP: **O**ver **C**urrent **P**rotection

7.1.3 DIAGNOSIS WITH THE AID OF FACTORY MODE

• Diagnosis with the aid of Factory mode

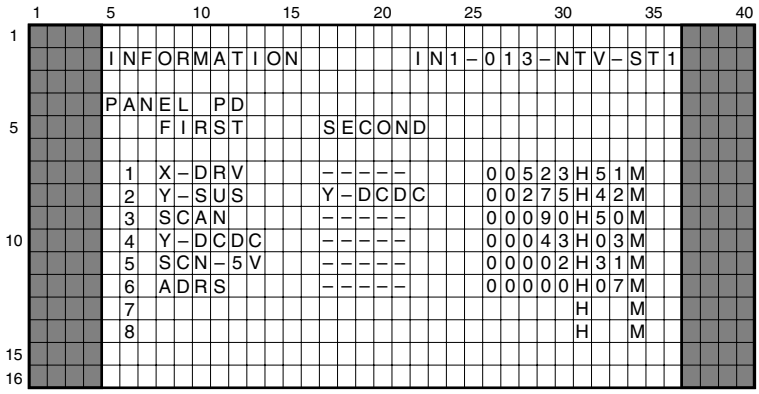
When the Media Receiver is connected, the power-down and shutdown logs can be referred to with OSD. Only the items useful when servicing the PDP-505PE/PRO-505PU are described here.

■ How to enter Factory mode using the remote control unit

Please refer to the technical documentation. (Service knowhow is the same as G4 PDP models.)

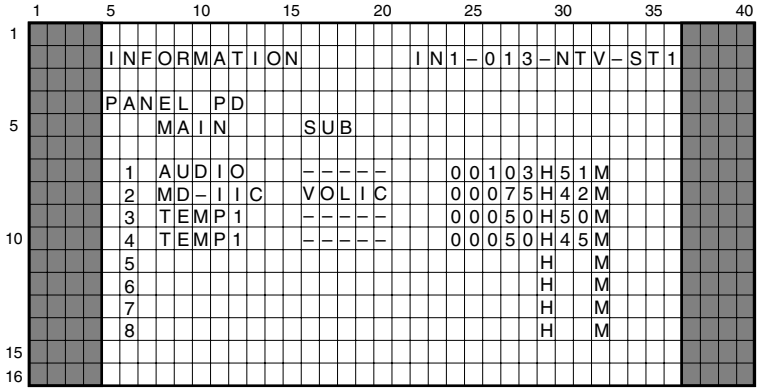
■ Power-down log (INFORMATION-PANEL PD)

The last 8 power-down records are held, with the latest power-down displayed at the top. In the FIRST column, the location where the PD circuit was activated first (location indicated by flashing of the LED during power-down) is indicated, and in the SECOND column, the location where the PD circuit was activated second is indicated.
Note: There may not be a SECOND PD.



■ Shutdown log (INFORMATION-PANEL SD)

The last 8 shutdown records are held, with the latest shutdown displayed at the top. If a shutdown occurred because of "MD-IIC" (communication failure of the module microcomputer IIC), the subcategory is indicated to inform you of with which device the microcomputer was in the process of communicating when a failure occurred.



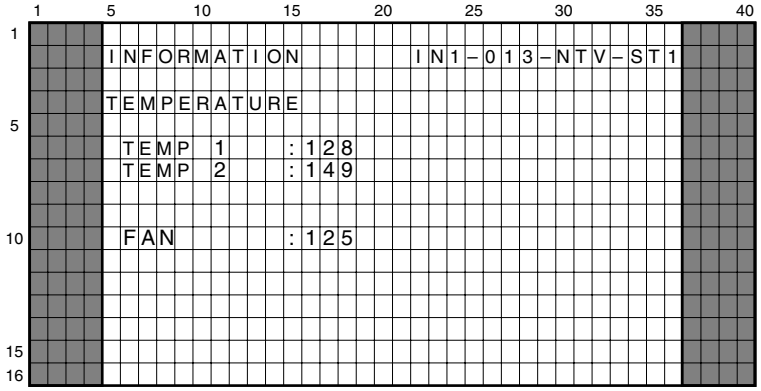
[Data on MD-IIC subcategories]

OSD	Defective communication part
EROM4K	IC5206: Module microcomputer EEPROM
EROM2K	IC4002: EEPROM for backup
VOLIC	IC3502–Volume IC

■ Data on temperature (INFORMATION-TEMPERATURE)

The data on the current temperatures are displayed.
The temperature at the PANEL SENSOR ASSY of the PDP-505PE/PRO-505PU is indicated as the TEMP 1 value (000-255), which should be converted using the following formula:
Current temperature (°C) ≒ 0.65 × TEMP 1 value - 52

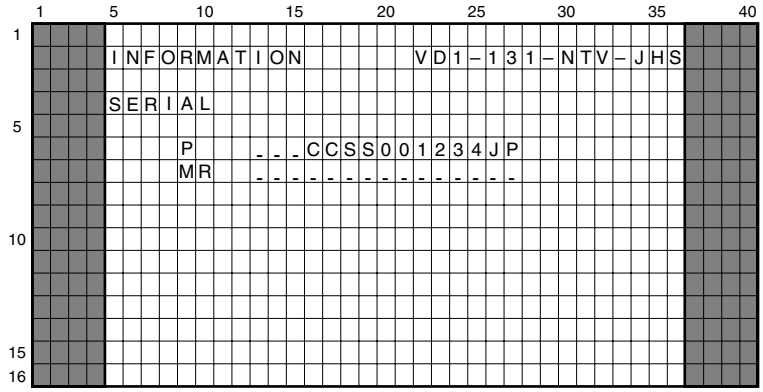
Note: Shutdown caused by high TEMP 1 value
PDP-505PE: TEMP 1 value > 195 (≒ 74°C)
PRO-505PU: TEMP 1 value > 195 (≒ 74°C)



Note: To update the data on temperature, use the Left and Right keys on the remote control unit.

Reference: Serial-number information (INFORMATION-SERIAL)

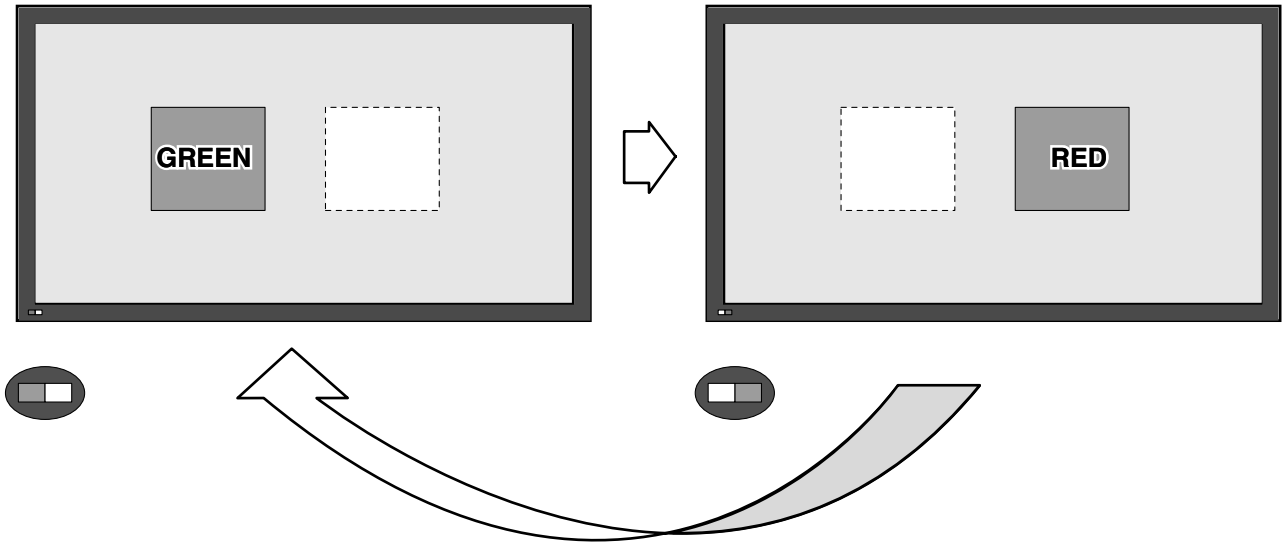
You can check the serial number of the product on the Factory menu.



7.1.4 OPERATION WHEN THE MEDIA RECEIVER IS NOT CONNECTED

As the connection conditions of the system cables (MDR cable, DVI cable) are usually detected, if no connection, such as cable disconnection, is detected, a warning indication (alternate flashing of the red and green areas) is displayed on the mask screen, and the red and green LEDs flash alternately. Then after about 30 seconds, the power is automatically turned off.

Note: Only when the power is turned on again, a warning indication on the mask screen restarts. During standby, only the red and green LEDs flash alternately.



Alternate flashing at intervals of about 1 second

To operate the panel without the Media Receiver, there are the following two ways:

1. Operation-without-the-Media-Receiver mode

Input the "SCN" RS232C command. The status of the LEDs changes to that in normal operation mode.

Note: Turning the AC switch to OFF then ON also maintains this mode. However, once the unit is connected with the Media Receiver using the MDR cable, this mode is automatically canceled.

2. DVI mode

Turn the unit on while DVI SG signals are being input with only the DVI connecter connected. After a warning is displayed for about 5 seconds, the unit is ready to display the screen of the input signal. (Green LED lit)

Notes:
- Although the output from XGA (43 inch) and WXGA (50 inch) can be input to the unit, this is not a mode open to general users. (With some signals, errors such as power-down may occur.)
- If a DE signal from the SG is not input during DVI mode, the green LED flashes (at intervals of 2 sec) for about 8 seconds, then the unit shifts to Power Management mode (the green LED lights).
- Although the PC signal data are displayed for the PDP-504P series panels, for the PDP-505P series panels this is not possible, because the EDID-ROM has not been provided.

7.1.5 TEMPERATURE-COMPENSATION FUNCTION OF THE DRIVE-SYSTEM VOLTAGE

Function: To control the DRIVE-system voltage according to the temperature (Temperature compensation functions such that the voltage is lowered on the lower-temperature side and the voltage becomes higher on the higher-temperature side.)

Purpose: For improving the yield by compensating for the temperature characteristics of the panel

Note: Temperature compensation is performed only for the VSUS voltage, and not for the VOFS voltage. This compensation is controlled by the software.

7.1.6 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

Function: Only the power for the low voltage lines (16.5 V, 12 V, and 6.5 V) is on, and the power for the high voltage lines (VSUS, VADR) is off.

Usage: 1. Use when only an operational check for the low voltage lines is required, such as when making repairs.
2. Use when rewriting of a program for each microcomputer is required.

Methods: 1 Set the slide switch (S5201) on the DIGITAL VIDEO Assy to its upper position (See Fig. below).
2. Send the "DRF" RS232C command to turn the large-signal system off.
3. Send the "DRN" RS232C command to turn the large-signal system on.

Notes:

- As the unit enters Power-Down and Muting On mode when Methods 1 and 2 are performed, and power-downs other than those caused by the power (PS_PD) and DC-DC-converter (DIGITAL_DC-DC) circuits are not activated.
- If the slide switch is set from OFF to ON while the power is on, a power-down will occur. Be sure to turn the power off before switching the slide switch.
- When using the RS232C commands, as with the slide switch, do not use the "DRN" command (DRIVE ON) while the power is on, although doing so will not cause a power-down.
- Although the "DRF" RS232C command is enabled during Standby, if the power is turned on then turned off, the unit will return to "DRN" mode.

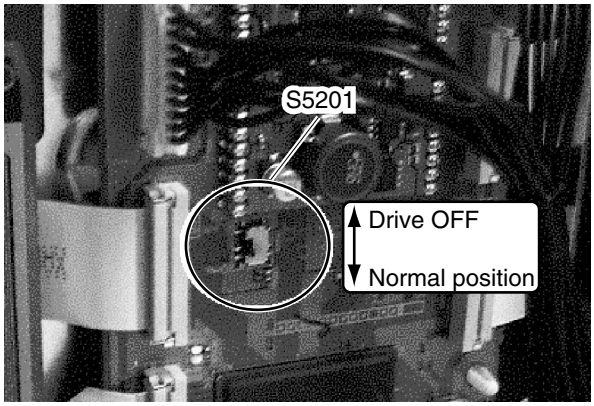


Fig. Drive OFF switch

7.1.7 BACKUP WHEN THE MAIN UNIT IS ADJUSTED

■ Outline

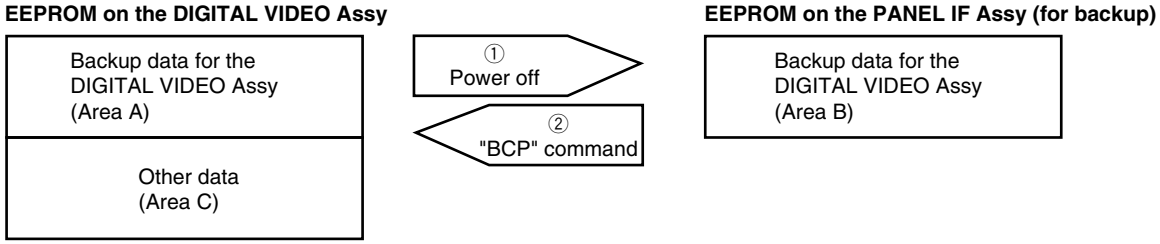
The data on the adjustment values for the main unit are stored in an EEPROM (IC5206, 4 kbits) on the DIGITAL VIDEO Assy. Part of the data (area A in the figure below) are automatically copied to an EEPROM (IC4002, 2 kbits) mounted on the PANEL IF Assy for backup. When the DIGITAL VIDEO Assy is replaced, the backup data on the adjustment values for the main unit stored in the PANEL IF Assy can be copied to the new DIGITAL VIDEO Assy, thus enabling you to omit newly performing adjustments on the main unit. The logs for the product (power-down log, etc.) can also be copied.

■ Data to be backed up in the digital EEPROM (area A)

- Margin adjustment values (Vsus, Vofset)
- Power upper-limit adjustment value (ABL)
- PANEL white-balance adjustment values
  (PANEL-R HIGH, PANEL-G HIGH, PANEL-B HIGH, PANEL-R LOW, PANEL-G LOW, PANEL-B LOW)
- Drive waveform adjustment values
  (X-SUS-U1, X-SUS-U2, X-SUS-D1, X-SUS-D2, Y-SUS-U1, Y-SUS-U2, Y-SUS-D1, Y-SUS-D2, Y-SUS-D3, Y-SUS-D4)
- Hour meter
- Pulse meter
- Number of times the power has been turned on
- PD/SD logs
- Serial Number

■ Basic flow of automatic backup

Using a keyword, the data in areas A and B are judged as to whether they have been adjusted or not, then copying is performed.


EEPROM on the DIGITAL VIDEO Assy
Backup data for the DIGITAL VIDEO Assy (Area A)
Other data (Area C)
①
Power off
②
"BCP" command
EEPROM on the PANEL IF Assy (for backup)
Backup data for the DIGITAL VIDEO Assy (Area B)

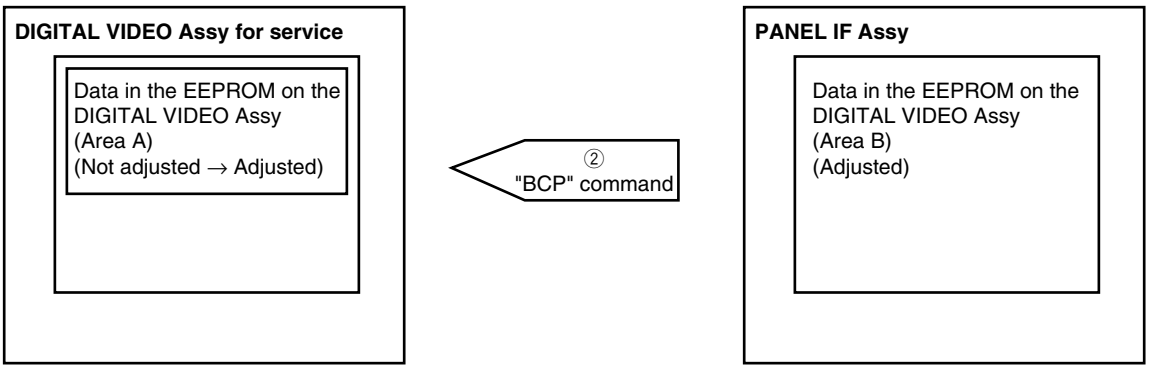
① The keyword on the DIGITAL VIDEO Assy is checked when the power is turned off, and if it is "adjusted", automatic backup is performed.
② If the keyword on the PANEL IF Assy (Area B) is "adjusted," copying can be performed with the "BCP" RS232C command.

■ Actual automatic backup operations by RS-232C command

1. When the DIGITAL VIDEO Assy is replaced with a new DIGITAL VIDEO Assy for service

Changing of keywords is not required. Replace the DIGITAL VIDEO Assy with an Assy for service, and send the "BCP" RS232C command. Thus, the backup data in the EEPROM on the PANEL IF Assy are copied to the EEPROM on the DIGITAL VIDEO Assy for service.

Note: To remind you to send the "BCP" command after replacing the DIGITAL VIDEO Assy with one for service, a warning by the LEDs (the red LED lit and the green LED flashing at intervals of 200 ms) is indicated until the "BCP" command is issued.


DIGITAL VIDEO Assy for service
Data in the EEPROM on the DIGITAL VIDEO Assy (Area A) (Not adjusted → Adjusted)
②
"BCP" command
PANEL IF Assy
Data in the EEPROM on the DIGITAL VIDEO Assy (Area B) (Adjusted)

2. When a repaired DIGITAL VIDEO Assy is mounted on another unit (reuse of the repaired DIGITAL VIDEO Assy)

The keyword of the DIGITAL VIDEO Assy to be reused must be changed to "not adjusted" using the "UAJ" RS232C command.

Note 1: If a repaired DIGITAL VIDEO Assy is mounted in another unit (Unit 2) without this change of keyword, and the power to the unit 2 is turned off, the data in force before the repair of the DIGITAL VIDEO Assy will be copied to Area B of the PANEL IF Assy of Unit 2, overwriting the data necessary for Unit 2. Once overwritten, the original data will not be restored.

3. When a repaired DIGITAL VIDEO Assy is mounted on the original unit (reuse of the repaired DIGITAL VIDEO Assy)
Changing of keywords is not required. After the repaired DIGITAL VIDEO Assy is mounted in the original unit, the unit can operate with its latest adjustment values.

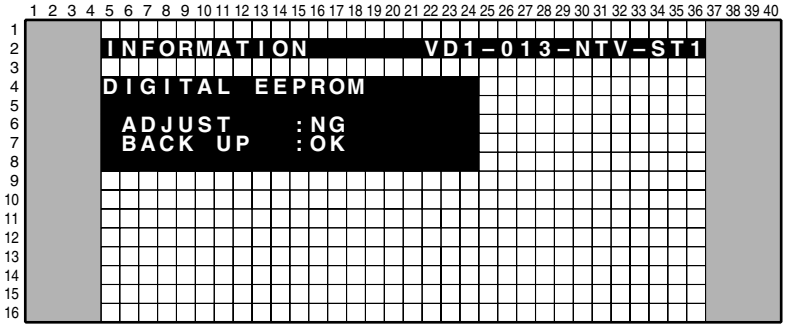
4. When both the DIGITAL VIDEO Assy and PANEL IF Assy are simultaneously replaced with other assemblies
The automatic backup function of this unit will not work properly.

Note 2: Readjustment of the main unit is required.
Note 3: After readjustment of the main unit, send the "FAJ" RS232C command to change the keyword of the DIGITAL VIDEO Assy to "adjusted." Thus, when the unit is turned off, automatic backup of adjustment data is performed properly.
Note 4: If readjustment of the main unit is totally impossible, it can be omitted by installing the EEPROM (IC5206, 4 kbits) originally mounted on the DIGITAL VIDEO Assy for service.

■ Automatic backup operations in Service/Factory mode

[Status confirmation]

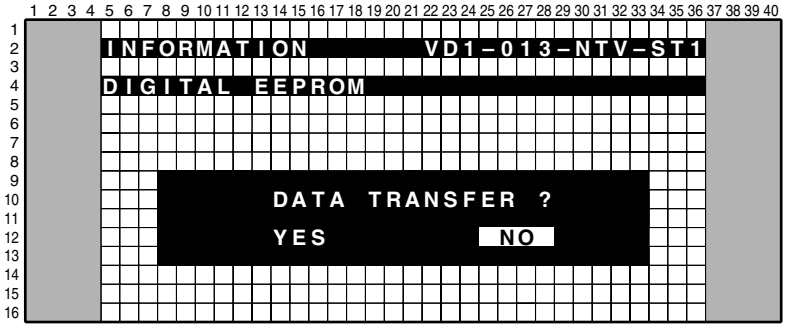
Display the screen page shown below to check if the DIGITAL VIDEO Assy has been adjusted or a new service part might have been installed without adjustment being performed, and if the adjustment values have been stored in the backup ROM.
If the DIGITAL VIDEO Assy has not been adjusted (NG), the red LED lights, and the green LED flashes at intervals of 200 ms. In such a case, be sure to download the data from the backup ROM.



[Downloading the adjustment data from the backup ROM] (Required after the DIGITAL VIDEO Assy is replaced)

After the DIGITAL VIDEO Assy is replaced, enter Service/Factory mode to copy the data from the backup ROM. Display the screen page shown above after entering Service/Factory mode then press the Enter key. The indication below is displayed. Move the cursor to YES then press the Enter key to start copying the data from the backup ROM to the new DIGITAL VIDEO Assy.

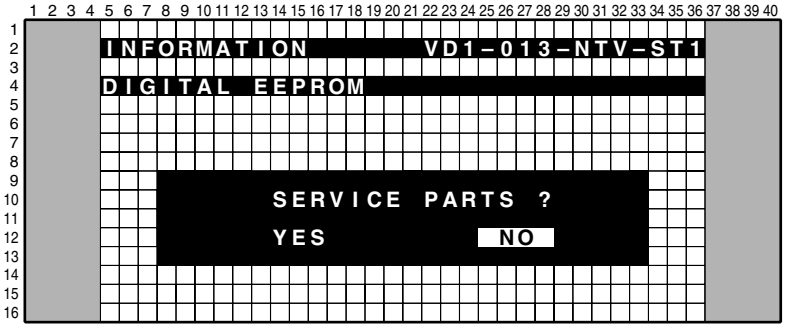
Note: Be sure to perform this operation when the DIGITAL VIDEO Assy is replaced with a new service part.



[Clearing the data in the ROM of the DIGITAL VIDEO Assy]

After either YES or NO is selected on the display shown above, the indication shown below is automatically displayed. Move the cursor to YES then press the Enter key. The data in the ROM of the DIGITAL VIDEO Assy become those for a service part (not adjusted).

Notes: • Use this operation after the DIGITAL VIDEO Assy in failure is repaired and is to be reused as a service part.
• In normal replacement of the Assy with a new service part, this operation is not required. Select NO after replacement with a service part.



When either YES or NO is selected on the above display, the display will automatically return to that for status confirmation shown above.

■ Miscellaneous

If the white balance (W/B) value is largely shifted because of aging, etc., W/B adjustment is required. (As this may be a rare case, the adjustment procedures are described below, just for your reference.)

[W/B-adjustment procedures]

The W/B adjustment can be performed with the RS232C commands with the Media Receiver not connected to this unit. The GGF1475 special communication tool and a Minolta CA-100 color difference meter are required.

① Enter Operation-without-the-Media-Receiver mode with the "SCN" RS232C command.

② Set the keyword for the DIGITAL VIDEO Assy to "not adjusted" with the "UAJ" RS232C command.

③ Obtain the current adjustment values in the two adjustment tables (see "6.3.1 RS232C commands").
• Shifting to Table 1: Send the "M51" and "F60" commands. Obtaining the adjustment values: Send the "GPW" command.
• Shifting to Table 2: Send the "M51" and "F75" commands. Obtaining the adjustment values: Send the "GPW" command.

④ Make settings for various functions.
Send the "PPN," "SDN," "SPN," and "WAY" commands.
Note: After adjustment, when the POWER switch is set to OFF, these settings will be reset to the initial values.

⑤ For each table, set the brightness.
• Adjustment in Table 1: After sending the "F60" command, perform adjustment.
• Adjustment in Table 2: After sending the "F75" command, perform adjustment.
For each table, change the RGB parameters so that the values measured using a Minolta color difference meter (CA-100) become as indicated below. In this case, any one of PRH, PGH, or PBH must be set to 256.

	Right side of Mask H
x	285
y	289

"PRH***" : 000 - 511
"PGH***" : 000 - 511
"PBH***" : 000 - 511

⑥ Check after adjustment
• Shifting to Table 1: Send the "F60" command. Obtaining the adjustment values: Send the "GPW" command.
• Shifting to Table 2: Send the "F75" command. Obtaining the adjustment values: Send the "GPW" command.
Check that the adjustment data have been changed.

⑦ Change the keyword for the DIGITAL VIDEO Assy to "adjusted" by sending the "FAJ" RS232C command.

Note: Use a Minolta CA-100 color difference meter or the equivalent for measurement. Otherwise, the specifications of the product cannot be assured.

Note: To cancel adjusted data and return to the values before adjustment, send the "BCP" RS232C command. Turn the AC power off then turn it back on before setting the unit to Standby OFF. The backup values are then retrieved.

[Diagnosis of abnormalities other than shutdown and power-down]

Symptom	Defective Assy	Possible Cause	Check Point	Possible Defective Part	Remarks
No power (both red and green LEDs unlit)		Cable disconnection	CN4001		Check if the connection between the POWER SUPPLY and PANEL IF assemblies is properly made.
No power (green LED not lit)		Defective 114-pin FPC	CN4004 - CN5001	ADY1081	Check if the FPC is broken or not securely inserted.
The power is (sometimes) interrupted.		Defective system cables	CN4002, CN4003		Check if the system cables are securely connected. (See "7.1.4 Operation when the Media Receiver is not connected.")
The power is interrupted, and the red and green warning indications appear on the screen.		System cables not connected			Check connection of the system cables. (See "7.1.4 Operation when the Media Receiver is not connected.")
While the red LED remains lit, the green LED begins flashing (200 ms).		No backup copy			The backup copy process was not performed when the Digital Assy was replaced. (See "7.1.7 Backup when the main unit is adjusted".)
Key input not effective		Cable disconnection	CN4801 - CN4851	ADD1225	Check if the FPCs are properly connected. Check if imparting vibration to the unit affects key inputs. Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed.
		Cable disconnection	CN4852 - CN4010		Check if the cables are disconnected or not securely connected. Check if a pulse is output when the key corresponding to Pin 8 of the CN4010 is pressed.
	KEY CONTROL	Defective KEY SCAN IC	KEY CONTROL Assy	IC4851	Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed.
Remote control unit not effective		Cable disconnection	CN4901 - CN4010		Check if the cables are not connected or securely connected.
	PANEL IR	Defective infrared receiver	PANEL IR	U4901	Check if a pulse is output when the key corresponding to Pin 3 of the CN4010 is pressed.
Abnormality in a one-eighth area of the screen	DIGITAL VIDEO	Defective IC4	IC4 BLOCK	IC5401	Check if an abnormal area in the screen changes when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address.
	ADDRESS				Check that an abnormal area in the screen does not change when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address.
Abnormal screen (Data of every other dot are abnormal)		Defective 114-pin FPC	CN4004 - CN5001	ADY1081	Check if the FPC is broken or not securely inserted.

7.1.9 DISASSEMBLY

1 Rear Case (50P) and Front Case Assy (50P)

① Remove the 15 screws.

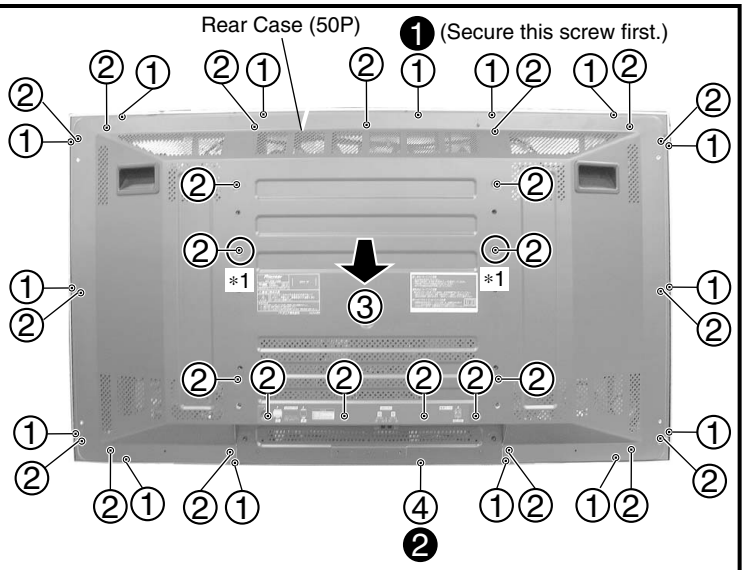
② Remove the 25 screws.

∗1:
When reassembling, first secure the screws for these holes to position the Rear Case (50P) correctly.

③ Remove the Rear Case (50P).

④ Remove the screw.

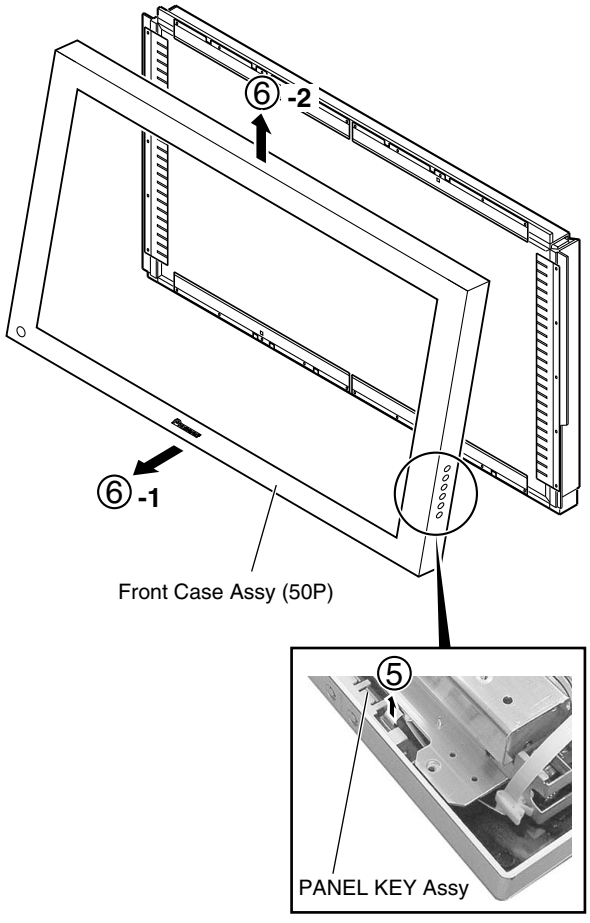
When reassembling the Front Case Assy (50P)
Secure the screws in the order of ❶ and ❷.
Then secure the screws on the upper side, the sides, then the lower side.



⑤ Remove the flexible cable on the PANEL KEY Assy.

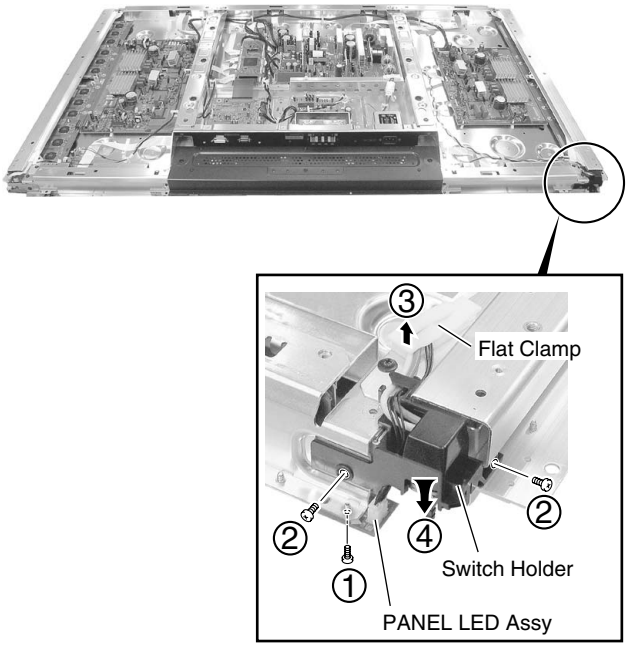
⑥ Remove the Front Case Assy (50P).

Note: If you wish to remove only the Front Case Assy, you can remove it in the order of ①, ④, ⑤, and ⑥.

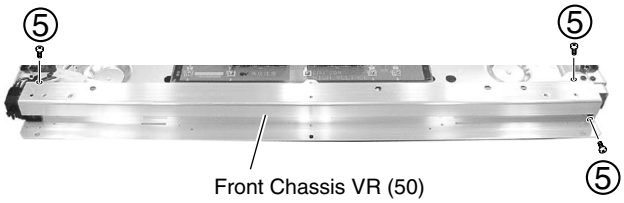


2 X CONNECTOR A and B Assy's

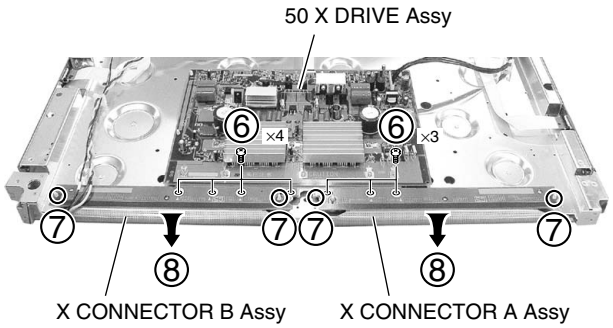
① Remove the PANEL LED Assy by removing one screw.
② Remove the two screws.
③ Remove the flat clamp and remove the wires.
④ Remove the Switch Holder.



⑤ Remove the three screws to remove the Front Chassis VR (50).

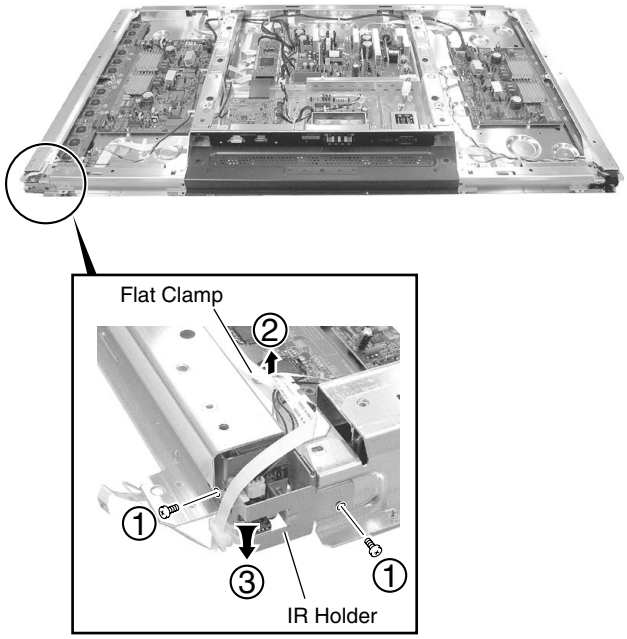


⑥ Remove the seven screws.
⑦ Remove the four PCB spacers.
⑧ Remove the X CONNECTOR A and B Assy's.

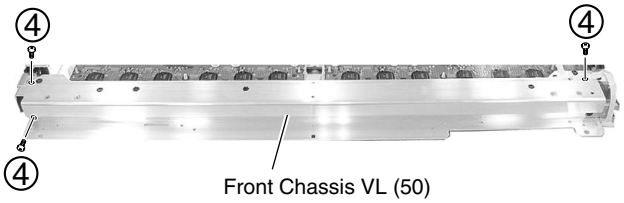


3 50 SCAN A and B Assy's

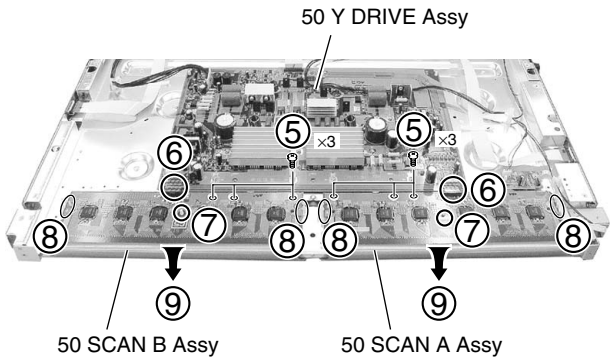
① Remove the two screws.
② Remove the flat clamp and remove the wires.
③ Remove the IR Holder.



④ Remove the three screws to remove the Front Chassis VL (50).



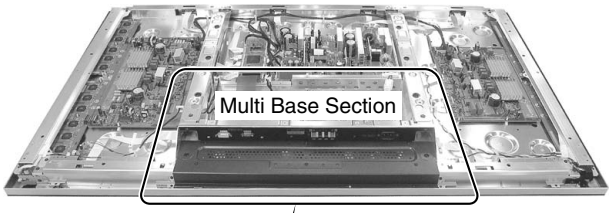
⑤ Remove the six screws.
⑥ Disconnect the two pin connectors.
⑦ Remove the two PCB spacers.
⑧ Remove the four edge card spacers.
⑨ Remove the 50 SCAN A and B Assy's.

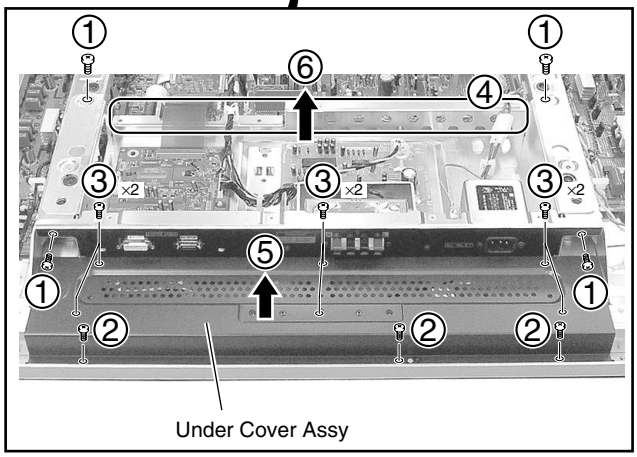


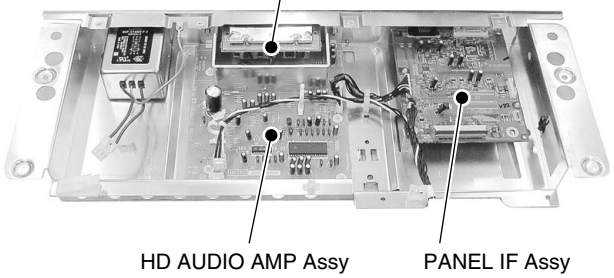
4 MULTI BASE SECTION

Note:
To access the Multi Base Section, only the Rear Case must be removed. No other parts need to be removed.

① Remove the four screws.
② Remove the three screws.
③ Remove the six screws.
④ Disconnect the connectors.
⑤ Remove the Under Cover Assy.
⑥ Remove the Multi Base Section.







7.2 IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

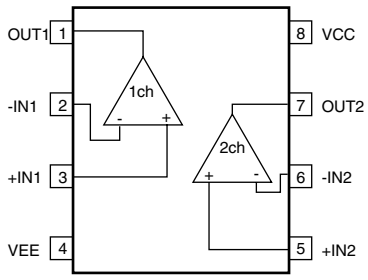
● **List of IC**

BA10393F, BA10358F, BA8274F, NJM2195L, MBM29PL160BD-75PFTN, SII169CTG100, STK795-512A, STK795-513A, LA4625, M30622FHPGP, PEG054A, AN16021A-K

■ BA10393F (50 X DRIVE ASSY: IC1103) (50 Y DRIVE ASSY: IC2211)

• Comparator IC

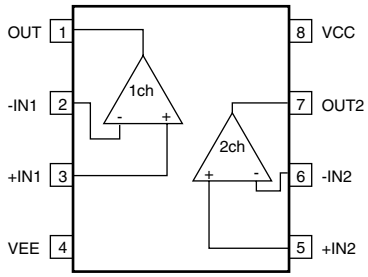
● **Pin Arrangement (Top view) / Block Diagram**



■ BA10358F (50 Y DRIVE ASSY: IC2406)

• OP-AMP IC

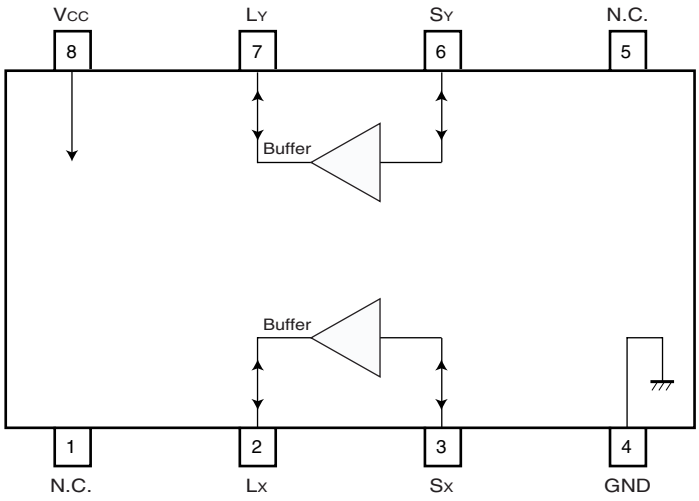
● **Pin Arrangement (Top view) / Block Diagram**



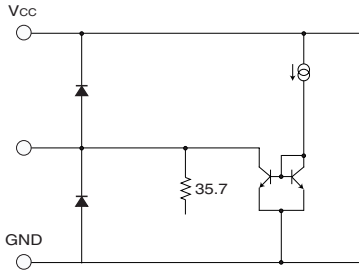
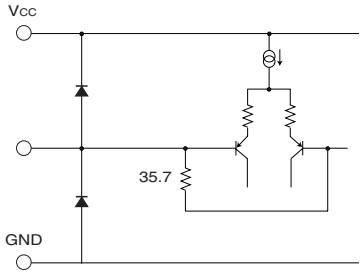
BA8274F (PANEL IF ASSY: IC4206)

- I^2C Bus Interface IC

● Block Diagram



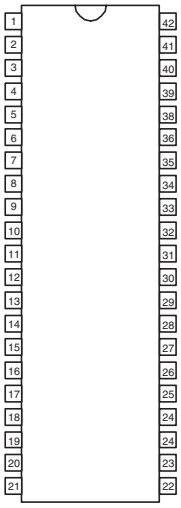
● Pin Function

Pin No.	Pin Name	Equivalent Circuit	Pin Function
2 7	LX LY		Buffer output
3 6	SX SY		Buffer input
4	GND	—	Ground
8	VCC	—	Power supply

■ NJM2195L (HD AUDIO AMP ASSY: IC3501)

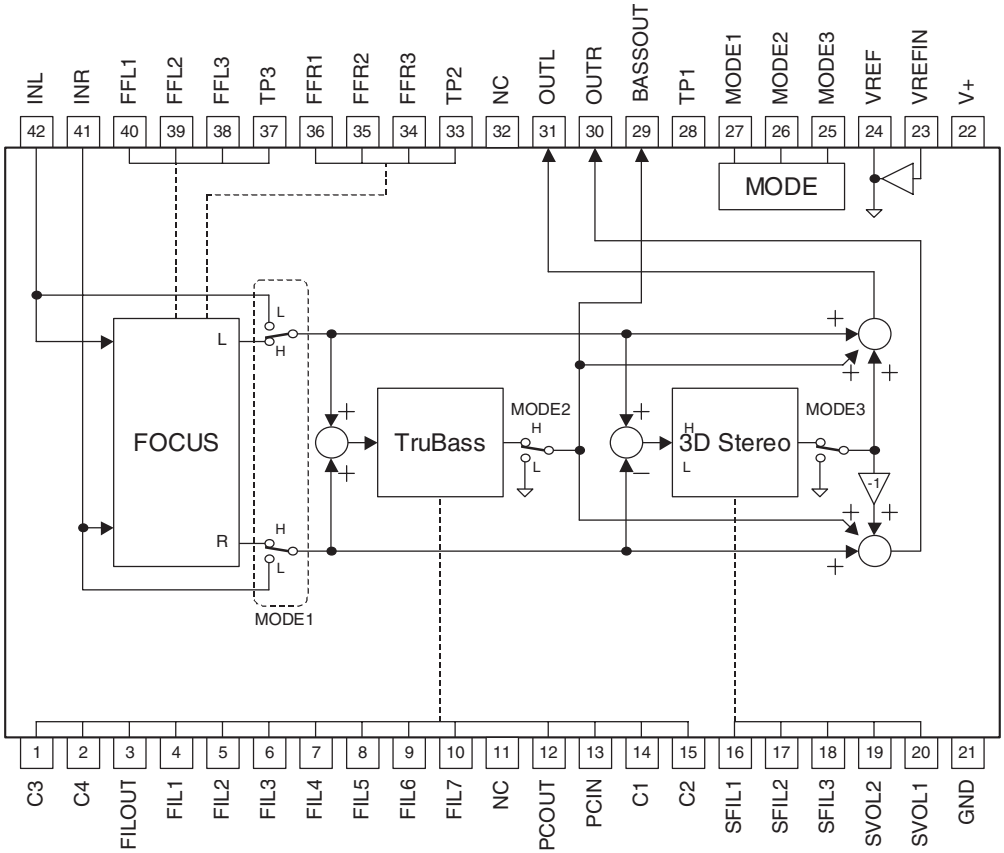
• Focus and SRS IC

● Pin Arrangement (Top view)

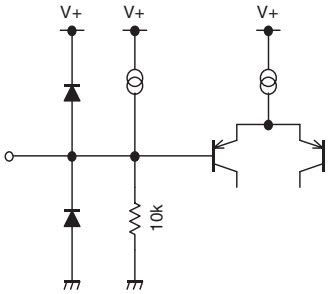
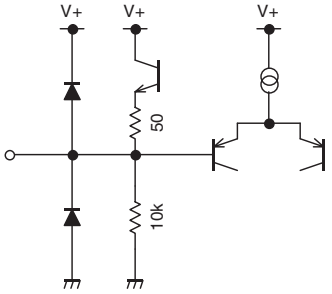
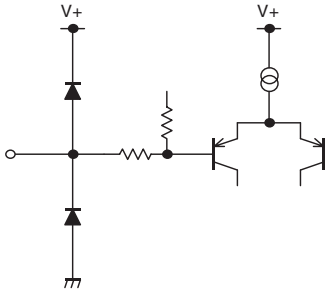
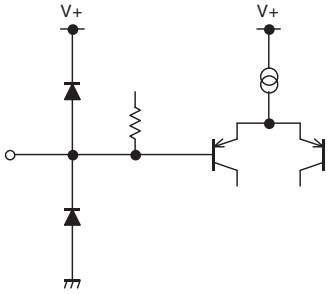


1.	C3	15.	C2	29.	BASSOUT
2.	C4	16.	SFIL1	30.	OUTR
3.	FILOUT	17.	SFIL2	31.	OUTL
4.	FIL1	18.	SFIL3	32.	NC
5.	FIL2	19.	SVOL2	33.	TP2
6.	FIL3	20.	SVOL1	34.	FFR3
7.	FIL4	21.	GND	35.	FFR2
8.	FIL5	22.	V+	36.	FFR1
9.	FIL6	23.	VREFIN	37.	TP3
10.	FIL7	24.	VREF	38.	FFL3
11.	NC	25.	MODE3	39.	FFL2
12.	PCOUT	26.	MODE2	40.	FFL1
13.	PCIN	27.	MODE1	41.	INR
14.	C1	28.	TP1	42.	INL

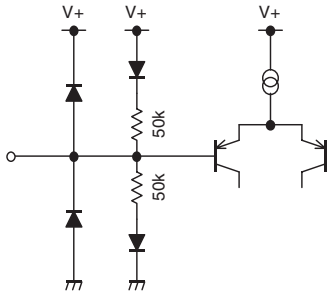
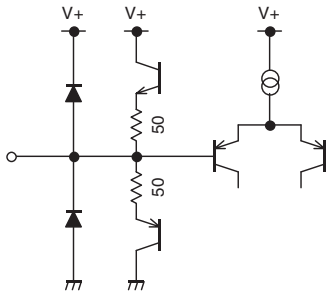
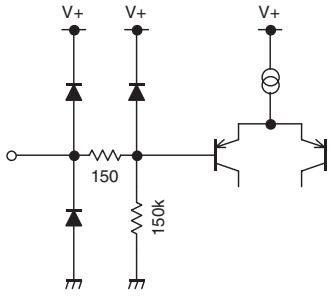
● Block Diagram



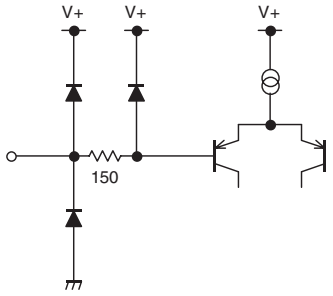
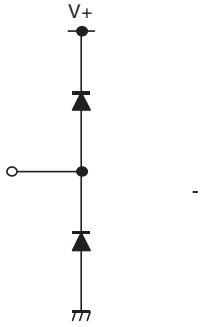
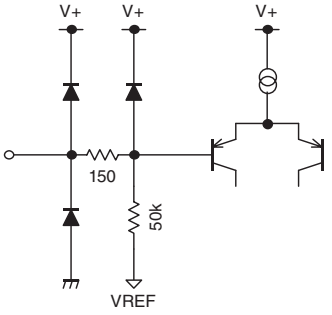
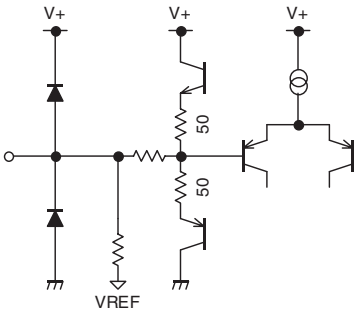
● Pin Function

No.			Pin Name		Equivalent Circuit	
SDIP42	SOP40	QFP48				
14	13	9	C1			0V
15	14	10	C2			0V
16 17 18	15 16 17	11 14 15	SFIL1 SFIL2 SFIL3			V+/2
19 2 5	18 2 5	16 44 47	SVOL2 C4 FIL2	WIDTH VR		V+/2

● Pin Function

No.			Pin Name		Equivalent Circuit	
SDIP42	SOP40	QFP48				
21	20	18	GND	GND	———	0V
22	21	19	V+		———	V+
23	22	20	VREFIN			V+/2
24 29 30 31 36 40 3	23 28 29 30 34 38 3	21 28 29 30 34 40 45	VREF BASSOUT OUTR OUTL FFR1 FFL1 FILOUT	TruBass Rch Lch		V+/2
25 26 27	24 25 26	22 23 26	MODE3 MODE2 MODE1	3 2 1		0V

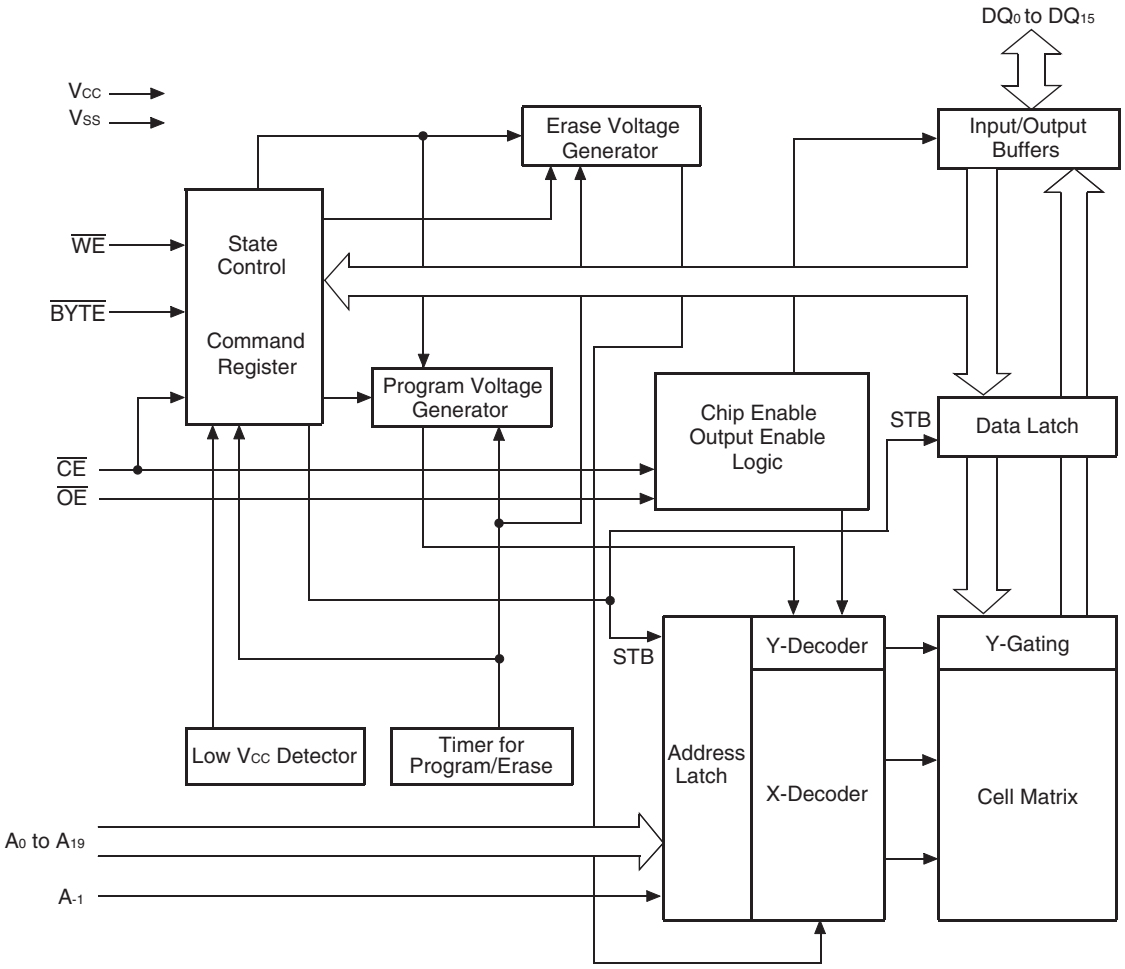
● Pin Function

No.			Pin Name		Equivalent Circuit	
SDIP42	SOP40	QFP48				
28 35 39	27 33 37	27 33 39	TP1 FFR2 FFL2			V+/2
33 37	31 35	31 35	TP2 TP3			-
41 42	39 40	41 42	INR INL	Rch Lch		V+/2
4	4	46	FIL1			V+/2

■ MBM29PL160BD (DIGITAL VIDEO ASSY: IC5303)

• Flash Memory IC

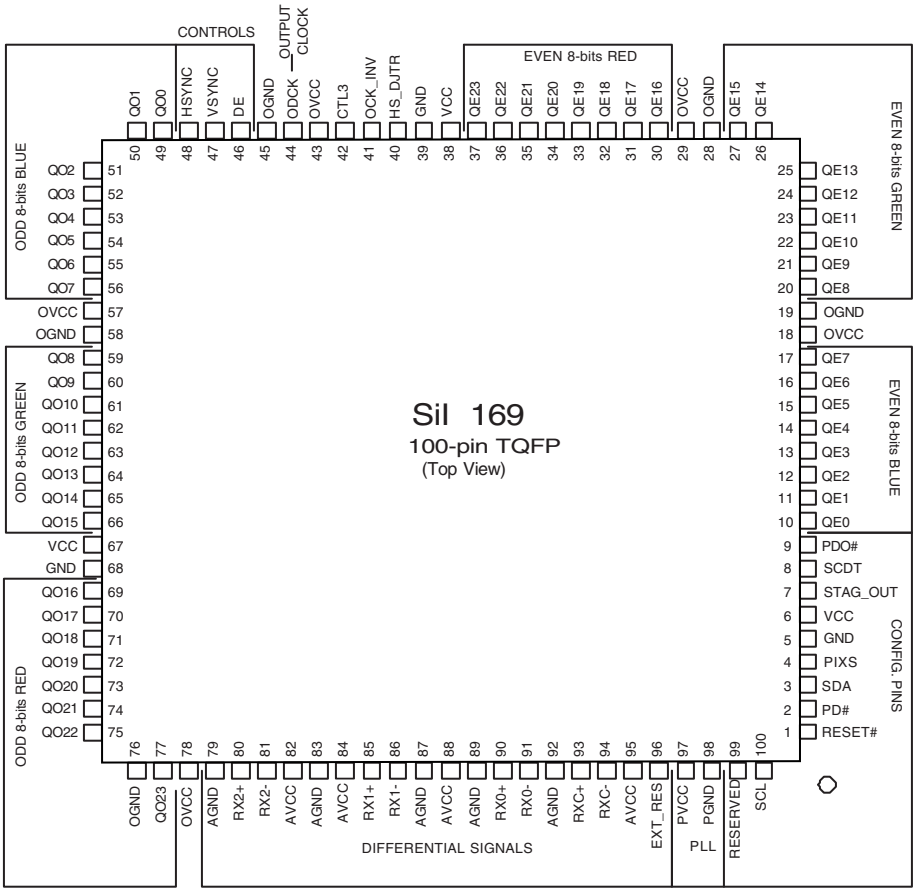
● Block Diagram



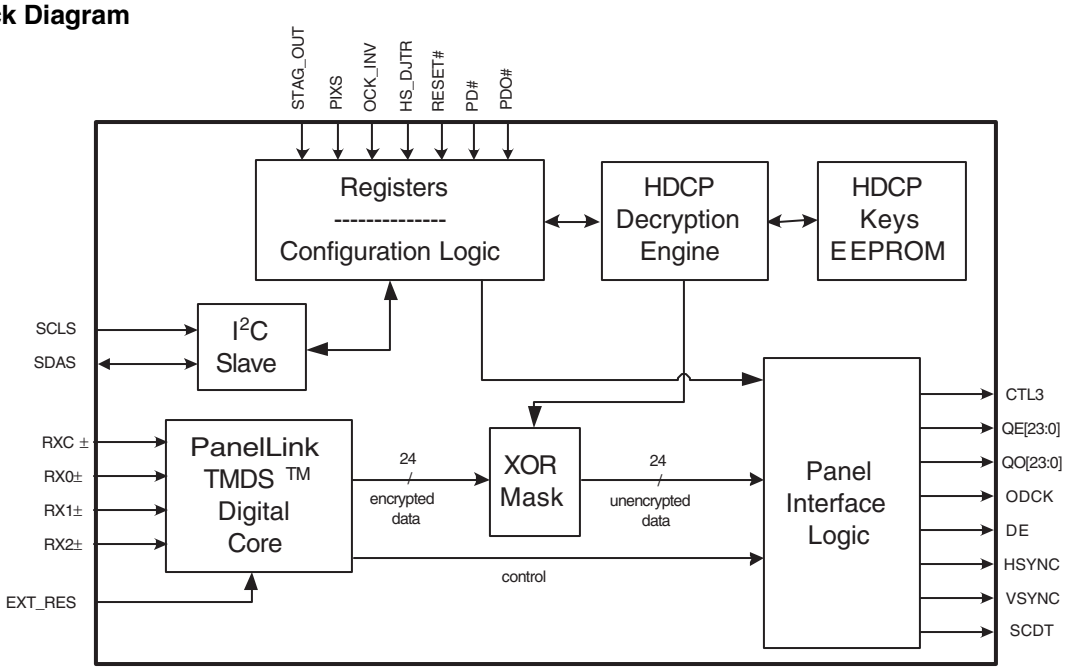
■ SII169CTG100 (PANEL IF ASSY: IC4202)

• Receiver IC

● Pin Arrangement (Top view)


CONTROLS
OUTPUT CLOCK
EVEN 8-bits RED
EVEN 8-bits GREEN
EVEN 8-bits BLUE
CONFIG. PINS
ODD 8-bits BLUE
ODD 8-bits GREEN
ODD 8-bits RED
DIFFERENTIAL SIGNALS
PLL
Sil 169
100-pin TQFP
(Top View)
QO1 QO0 HSYNC VSYNC DE OGND ODCK OVCC CTL3 OCK_INV HS_DJTR GND VCC QE23 QE22 QE21 QE20 QE19 QE18 QE17 QE16 OVCC OGND QE15 QE14
QO2 QO3 QO4 QO5 QO6 QO7 OVCC OGND QO8 QO9 QO10 QO11 QO12 QO13 QO14 QO15 VCC GND QO16 QO17 QO18 QO19 QO20 QO21 QO22
QE13 QE12 QE11 QE10 QE9 QE8 OGND OVCC QE7 QE6 QE5 QE4 QE3 QE2 QE1 QE0 PDO# SCDT STAG_OUT VCC GND PIXS SDA PD# RESET#
OGND QO23 OVCC AGND RX2+ RX2- AVCC AGND AVCC RX1+ RX1- AGND AVCC AGND RX0+ RX0- AGND RXC+ RXC- AVCC EXT_RES PVCC PGND RESERVED SCL

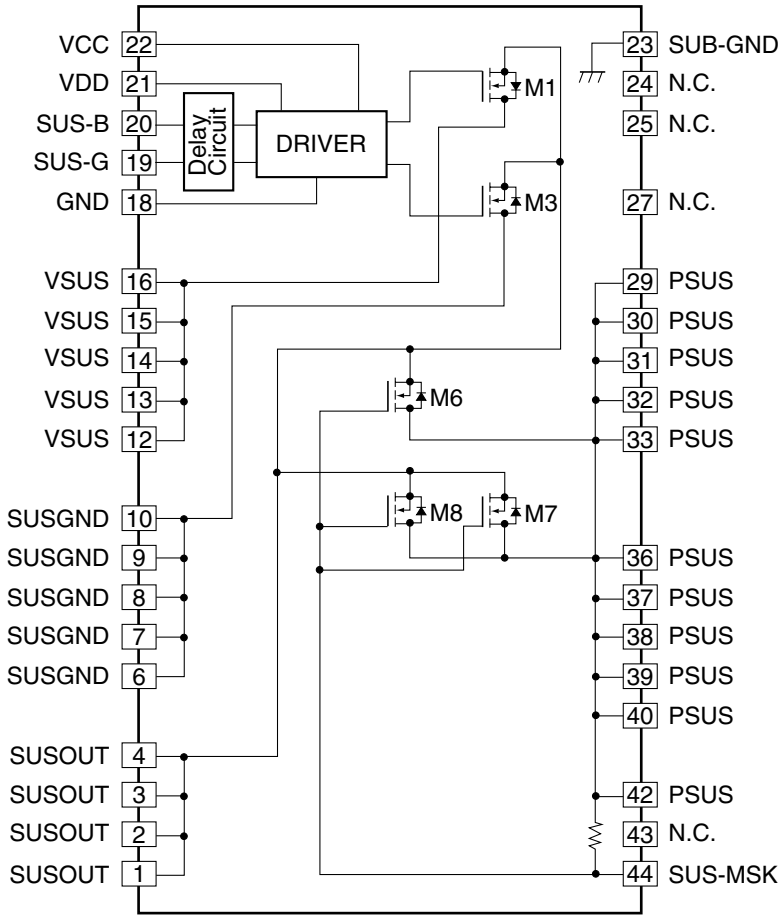
● Block Diagram



■ STK795-512A (50 X DRIVE ASSY: IC1203, IC1207)

PDP Mask Module IC

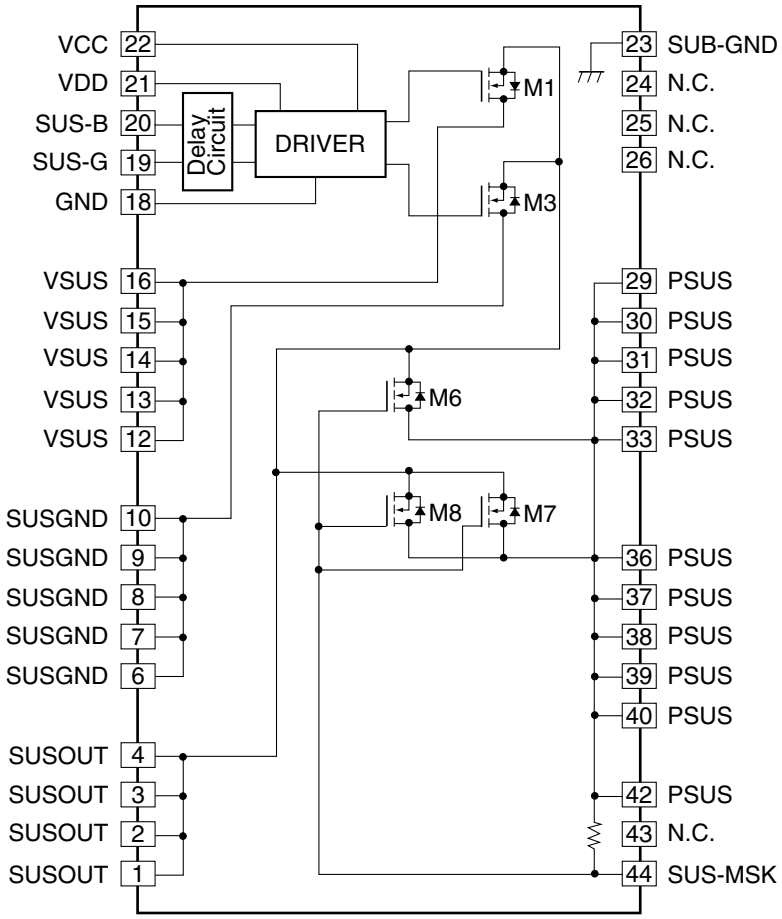
● Block Diagram



■ STK795-513A (50 Y DRIVE ASSY: IC2303, IC2307)

PDP Mask Module IC

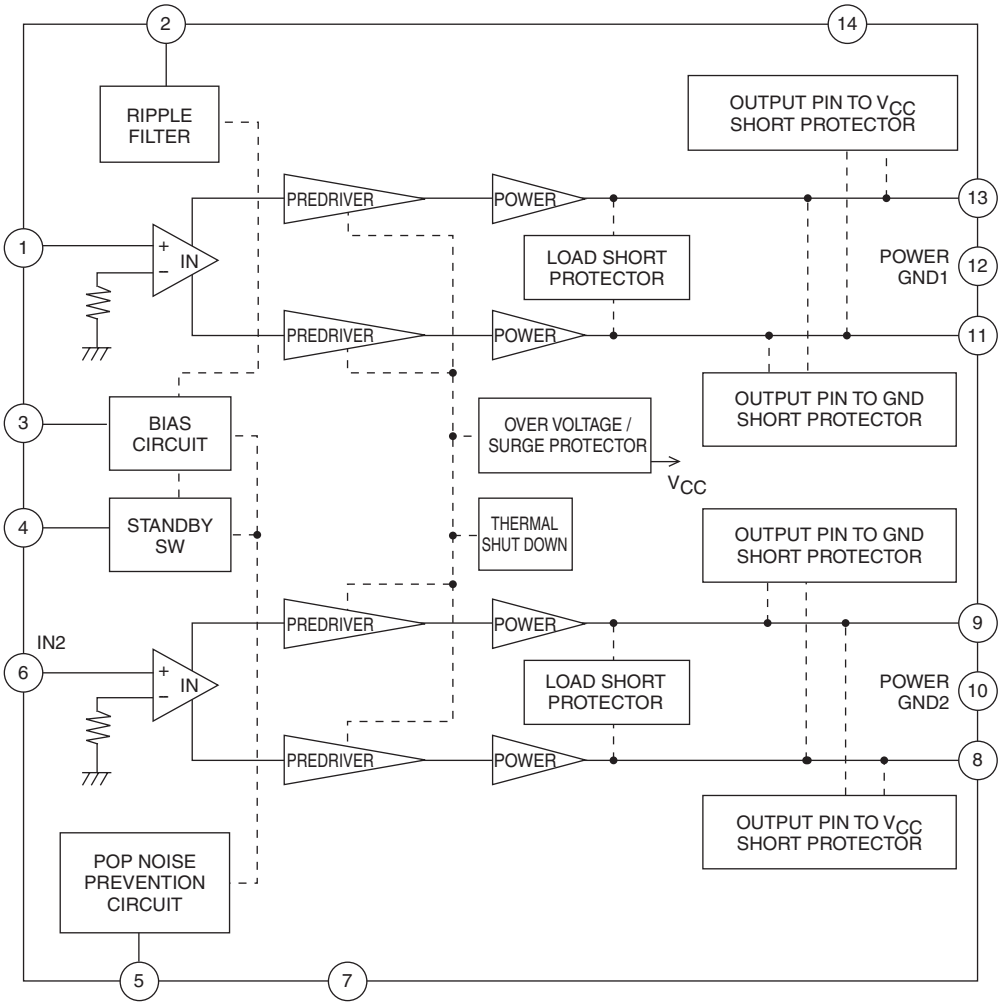
● Block Diagram



■ LA4625 (HD AUDIO ASSY: IC3504)

• 2ch BTL AF Power Amp IC

● Block Diagram



■ M30622FH8PGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

● **Pin Function (1/2)**

No.	Pin Name	Function	I/0	ACTIVE
1	VSUS	[D/A] Vofs power control	O	
2	VOFS	[D/A] Vofs power control	O	
3	TXD_IC4	3 serial communication with IC4MANTA - data transmission	O	
4	RXD_IC4	3 serial communication with IC4MANTA - data receive	I	
5	CLK_IC4	3 serial communication with IC4MANTA - clock output	O	
6	BYTE	(GND connection)	I	
7	CNVSS	Pin for processor mode setting (pull-down)	I	
8	NC	NC pin		
9	NC	NC pin		
10	RST_MD	Reset input	I	L
11	XOUT	Output for main clock	O	–
12	VSS	GND	–	–
13	XIN	Input for main clock	I	–
14	VCC1	Power supply = STB3.3V	–	–
15	NMI	(pull-up)	I	
16	REM_B	(Interruption) Remote control signal input (in the panel unit)	I	
17	KEY_B	(Interruption) Key signal input (in the panel unit)	I	
18	RST2	(Interruption) IC4 reset detection	I	L
19	HD_IN_B	HD signal existence distinction	I	L
20	PD_MUTE	Mute the power down output to the POWER SUPPLY Unit	O	L
21	PS_PD	PD signal in the POWER SUPPLY Unit	I	H
22	DCC_PD	PD signal of DC-DC converter	I	H
23	NC	NC pin		
24	NC	NC pin		
25	VD_IN	V. frequency count	I	L
26	EEPRST	EEPROM power SW	O	H
27	E_SCL	IIC clock output for EEPROM	O	
28	E_SDA	IIC data I/O for EEPROM	I/O	
29	TXD	Communication with flash ROM writer - data transmission	O	
30	RXD	Communication with flash ROM writer - data receive	I	
31	SCLK	Communication with flash ROM writer - clock input	I	
32	BUSY	Communication with flash ROM writer - busy output	O	
33	TXD0	UART communication with main UCOM (external PC) - data transmission	O	
34	RXD0	UART communication with main UCOM (external PC) - data receive	I	
35	NC	NC pin		
36	REQ_MD	Communication request to the main UCOM	O	H
37	PSW_D	Mute of DC-DC converter	O	H
38	WE_IC4	In IC4 (MANTA) rewriting, control for communication path switch	O	H
39	EPM	Setting pin for flash rewriting mode (pull-down)	I	
40	IC4_RST	IC4 forced reset	O	L
41	IC4_CE	Enable for IC4 communication	O	L
42	IC4_BUSY	Busy input for IC4 communication	I	H
43	REQ_IC4	Communication request from the IC4	I	H
44	CE	Setting pin for flash rewriting mode (pull-up)	I	
45	PSIZE	Panel size distinction	I	
46	B_SCL	IIC clock output for backup EEPROM	O	H
47	B_SDA	IIC DATA I/O for backup EEPROM	I/O	H
48	ADR_PD	PD signal of address junction	I	H
49	LED_G	Green LED control	O	L
50	LED_R	Red LED control	O	L

■ M30622FH8PGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

● **Pin Function (2/2)**

No.	Pin Name	Function	I/0	ACTIVE
51	DRV_OFF	Driving OFF	O	H
52	RELAY	Power ON control output	O	H
53	POWER	Power ON control input	I	H
54	MR_ST_B	MDR connection detection	I	L
55	OP_DET	Rear case open detection	I	
56	NC	NC pin		
57	PNL_MUTE	Panel mute	I	
58	DITHER	PC/VIDEO dither switch (panel module exclusive use)	I	
59	NC	NC pin		
60	VCC2	Power supply = STB 3.3V	–	–
61	PD_TRG	PD detection	I	L
62	VSS	GND	–	–
63	VH_PD	Vh power decrease PD	I	H
64	YDRV_PD	Y drive PD signal	I	H
65	YRES_PD	Y drive PD signal	I	H
66	YDCDC_PD	PD signal of Y drive DC-DC converter	I	H
67	IC5V_PD	5V power decrease PD	I	H
68	XSUS_PD	X drive PD signal	I	H
69	XDCDC_PD	PD signal of X drive DC-DC converter	I	H
70	XDRV_PD	X drive PD signal	I	H
71	NC	NC pin		
72	MR_AC	MR power monitor	I	H
73	AC_DET	AC power monitor at panel side (same signal as CST1)	I	L
74	DVI_MUTE	Mute of panel link output	O	H
75	A_MUTE	Audio mute	O	H
76	A_NG	Audio NG detection	I	L
77	A_SCL	IIC clock output for audio/others	O	L
78	A_SDA	IIC data I/O for audio/others	I/O	L
79	TRUBASS	TRUBASS ON/OFF	O	H
80	STB_SW	Standby setting of audio amp.	O	L
81	FOCUS	FOCUS ON/OFF	O	H
82	SRS	SRS ON/OFF	O	H
83	DDC_WP	DDCROM write protection	O	H
84	DVI_DET	DVI cable disconnection detection	I	H
85	RSTBTMDS	Reset detection of panel link receiver	I	L
86	L_SYNC	DE omission detection of the panel link	I	L
87	NC	NC pin		
88	NC	NC pin		
89	MASK1	[A/D] Mask display setting	I	
90	MAX_PLS2	[A/D] Brightness setting for panel module	I	
91	MAX_PLS1	[A/D] Brightness setting for panel module	I	
92	TEMP	[A/D] AD input for temperature sensor	I	
93	MODE	[A/D] Operation mode setting	I	
94	AVSS	GND for A/D input	–	–
95	MODEL	[A/D] CMX/HD/TV/WX distinction	I	
96	VREF	Reference voltage for A/D input	–	–
97	AVCC	Power supply for A/D input = STB3.3V	–	–
98	NC	NC pin		
99	NC	NC pin		
100	AMG_MD	Address emergency monitor	I	H

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● **Pin Function (1/10)**

Ball No.	No.	Pin Name	Function
A1	1	BAI_6	A phase signal input of B video (sixth bit)
B1	2	BAI_5	A phase signal input of B video (fifth bit)
C1	3	BAI_4	A phase signal input of B video (fourth bit)
D1	4	NC	NC pin
E1	5	NC	NC pin
F1	6	BAI_3	A phase signal input of B video (fifth bit)
G1	7	BAI_2	A phase signal input of B video (fourth bit)
H1	8	FIELD	FIELD signal input
J1	9	XSUSB_12	X-Drive control signal output
K1	10	XSUSB_10	X-Drive control signal output
L1	11	XSUSB_4	X-Drive control signal output
M1	12	XSUSB_0	X-Drive control signal output
N1	13	XSUSA_10	X-Drive control signal output
P1	14	XSUSA_4	X-Drive control signal output
R1	15	XSUSA_2	X-Drive control signal output
T1	16	ADRS_0	Address control signal output
U1	17	AD6TXOUT3M	Address LVDS signal output
V1	18	AD6TXCLKOUTM	Address LVDS signal output
W1	19	AD6TXOUT2M	Address LVDS signal output
Y1	20	AD6TXOUT1M	Address LVDS signal output
AA1	21	AD6TXOUT0M	Address LVDS signal output
AB1	22	AD7TXOUT3M	Address LVDS signal output
AC1	23	AD7TXCLKOUTM	Address LVDS signal output
AD1	24	AD7TXOUT2M	Address LVDS signal output
AE1	25	AD7TXOUT1M	Address LVDS signal output
AF1	26	AD7TXOUT0M	Address LVDS signal output
AF2	27	AD7TXOUT0P	Address LVDS signal output
AF3	28	VSSLA	GND
AF4	29	AD3TXOUT3M	Address LVDS signal output
AF5	30	AD3TXCLKOUTM	Address LVDS signal output
AF6	31	AD3TXOUT2M	Address LVDS signal output
AF7	32	AD3TXOUT1M	Address LVDS signal output
AF8	33	AD3TXOUT0M	Address LVDS signal output
AF9	34	AD2TXOUT3M	Address LVDS signal output
AF10	35	AD2TXCLKOUTM	Address LVDS signal output
AF11	36	AD2TXOUT2M	Address LVDS signal output
AF12	37	AD2TXOUT1M	Address LVDS signal output
AF13	38	AD2TXOUT0M	Address LVDS signal output
AF14	39	AD1TXOUT3M	Address LVDS signal output
AF15	40	AD1TXCLKOUTM	Address LVDS signal output
AF16	41	AD1TXOUT2M	Address LVDS signal output
AF17	42	AD1TXOUT1M	Address LVDS signal output
AF18	43	AD1TXOUT0M	Address LVDS signal output
AF19	44	AD0TXOUT3M	Address LVDS signal output
AF20	45	AD0TXCLKOUTM	Address LVDS signal output
AF21	46	AD0TXOUT2M	Address LVDS signal output
AF22	47	AD0TXOUT1M	Address LVDS signal output
AF23	48	AD0TXOUT0M	Address LVDS signal output
AF24	49	VSSL15	GND
AF25	50	AD4TXOUT3P	Address LVDS signal output

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (2/10)

Ball No.	No.	Pin Name	Function
AF26	51	AD4TXOUT3M	Address LVDS signal output
AE26	52	AD4TXCLKOUTM	Address LVDS signal output
AD26	53	AD4TXOUT2M	Address LVDS signal output
AC26	54	AD4TXOUT1M	Address LVDS signal output
AB26	55	AD4TXOUT0M	Address LVDS signal output
AA26	56	AD5TXOUT3M	Address LVDS signal output
Y26	57	AD5TXCLKOUTM	Address LVDS signal output
W26	58	AD5TXOUT2M	Address LVDS signal output
V26	59	AD5TXOUT1M	Address LVDS signal output
U26	60	AD5TXOUT0M	Address LVDS signal output
T26	61	SDIDBI_N	JTAG signal
R26	62	SDIJTAG	JTAG signal
P26	63	GPIO0_3	Microcomputer macro general-purpose port
N26	64	GPIO0_1	Microcomputer macro general-purpose port
M26	65	YSUSA_4	Y-Drive control signal output
L26	66	YSUSA_10	Y-Drive control signal output
K26	67	YSUSA_14	Y-Drive control signal output
J26	68	YSUSB_4	Y-Drive control signal output
H26	69	YSUSB_6	Y-Drive control signal output
G26	70	YSUSB_10	Y-Drive control signal output
F26	71	YSUSB_14	Y-Drive control signal output
E26	72	NC	NC pin
D26	73	NC	NC pin
C26	74	SCAN_10	Scan control signal output
B26	75	CSIOTXD	Communication with microcomputer
A26	76	CSRD_N	Communication with microcomputer
A25	77	CSCS_N0	Communication with microcomputer
A24	78	EXA16	Flash memory address bus
A23	79	EXA15	Flash memory address bus
A22	80	EXA14	Flash memory address bus
A21	81	EXA13	Flash memory address bus
A20	82	EXA12	Flash memory address bus
A19	83	EXA10	Flash memory address bus
A18	84	EXA7	Flash memory address bus
A17	85	EXA1	Flash memory address bus
A16	86	EXDIO_3	Flash memory data bus
A15	87	EXDIO_5	Flash memory data bus
A14	88	EXDIO_11	Flash memory data bus
A13	89	TRNSEND_O	NC pin
A12	90	RBI_5	B phase signal input of R video (fifth bit)
A11	91	RBI_0	B phase signal input of R video (0 bit)
A10	92	GBI_8	B phase signal input of G video (eighth bit)
A9	93	GBI_2	B phase signal input of G video (second bit)
A8	94	BBI_6	B phase signal input of B video (sixth bit)
A7	95	BBI_0	B phase signal input of B video (0 bit)
A6	96	VDI	VD signal input
A5	97	RAI_5	A phase signal input of R video (fifth bit)
A4	98	DCLKI	CLK input
A3	99	GAI_4	A phase signal input of G video (fourth bit)
A2	100	BAI_9	A phase signal input of B video (ninth bit)

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● **Pin Function (3/10)**

Ball No.	No.	Pin Name	Function
B2	101	BAI_8	A phase signal input of B video (eighth bit)
C2	102	BAI_7	A phase signal input of B video (seventh bit)
D2	103	GND	GND
E2	104	NC	NC
F2	105	NC	NC
G2	106	BAI_1	A phase signal input of B video (first bit)
H2	107	XSUSB_15	X-Drive control signal output
J2	108	GND	GND
K2	109	XSUSB_9	X-Drive control signal output
L2	110	XSUSB_3	X-Drive control signal output
M2	111	XSUSA_15	X-Drive control signal output
N2	112	XSUSA_9	X-Drive control signal output
P2	113	GND	GND
R2	114	XSUSA_1	X-Drive control signal output
T2	115	TEST2	Test signal input (Not used)
U2	116	AD6TXOUT3P	Address LVDS signal output
V2	117	AD6TXCLKOUTP	Address LVDS signal output
W2	118	AD6TXOUT2P	Address LVDS signal output
Y2	119	AD6TXOUT1P	Address LVDS signal output
AA2	120	AD6TXOUT0P	Address LVDS signal output
AB2	121	AD7TXOUT3P	Address LVDS signal output
AC2	122	AD7TXCLKOUTP	Address LVDS signal output
AD2	123	AD7TXOUT2P	Address LVDS signal output
AE2	124	AD7TXOUT1P	Address LVDS signal output
AE3	125	VSSLA	GND
AE4	126	AD3TXOUT3P	Address LVDS signal output
AE5	127	AD3TXCLKOUTP	Address LVDS signal output
AE6	128	AD3TXOUT2P	Address LVDS signal output
AE7	129	AD3TXOUT1P	Address LVDS signal output
AE8	130	AD3TXOUT0P	Address LVDS signal output
AE9	131	AD2TXOUT3P	Address LVDS signal output
AE10	132	AD2TXCLKOUTP	Address LVDS signal output
AE11	133	AD2TXOUT2P	Address LVDS signal output
AE12	134	AD2TXOUT1P	Address LVDS signal output
AE13	135	AD2TXOUT0P	Address LVDS signal output
AE14	136	AD1TXOUT3P	Address LVDS signal output
AE15	137	AD1TXCLKOUTP	Address LVDS signal output
AE16	138	AD1TXOUT2P	Address LVDS signal output
AE17	139	AD1TXOUT1P	Address LVDS signal output
AE18	140	AD1TXOUT0P	Address LVDS signal output
AE19	141	AD0TXOUT3P	Address LVDS signal output
AE20	142	AD0TXCLKOUTP	Address LVDS signal output
AE21	143	AD0TXOUT2P	Address LVDS signal output
AE22	144	AD0TXOUT1P	Address LVDS signal output
AE23	145	AD0TXOUT0P	Address LVDS signal output
AE24	146	VSSL15	GND
AE25	147	AD4TXCLKOUTP	Address LVDS signal output
AD25	148	AD4TXOUT2P	Address LVDS signal output
AC25	149	AD4TXOUT1P	Address LVDS signal output
AB25	150	AD4TXOUT0P	Address LVDS signal output

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• PDP ASIC IC4

● **Pin Function (4/10)**

Ball No.	No.	Pin Name	Function
AA25	151	AD5TXOUT3P	Address LVDS signal output
Y25	152	AD5TXCLKOUTP	Address LVDS signal output
W25	153	AD5TXOUT2P	Address LVDS signal output
V25	154	AD5TXOUT1P	Address LVDS signal output
U25	155	AD5TXOUT0P	Address LVDS signal output
T25	156	SDITRST_N	JTAG signal
R25	157	RESETX	Reset input
P25	158	GND	GND
N25	159	GPIO0_0	Microcomputer macro general-purpose port
M25	160	YSUSA_5	Y-Drive control signal output
L25	161	YSUSA_11	Y-Drive control signal output
K25	162	YSUSA_15	Y-Drive control signal output
J25	163	GND	GND
H25	164	YSUSB_7	Y-Drive control signal output
G25	165	YSUSB_11	Y-Drive control signal output
F25	166	NC	NC pin
E25	167	NC	NC pin
D25	168	GND	GND
C25	169	SCAN_11	Scan control signal output
B25	170	CSIORXD	Communication with UCOM
B24	171	CSIOSCKI	Communication with UCOM
B23	172	UARTTXD	Communication with UCOM
B22	173	UARTRXD	Communication with UCOM
B21	174	CSWR_N0	Communication with UCOM
B20	175	GND	GND
B19	176	EXA9	Flash memory address bus
B18	177	EXA6	Flash memory address bus
B17	178	EXA0	Flash memory address bus
B16	179	GND	GND
B15	180	EXDIO_6	Flash memory data bus
B14	181	EXDIO_12	Flash memory data bus
B13	182	RBI_9	B phase signal input of R video (ninth bit)
B12	183	RBI_4	B phase signal input of R video (fourth bit)
B11	184	GND	GND
B10	185	GBI_7	B phase signal input of G video (seventh bit)
B9	186	GBI_1	B phase signal input of G video (first bit)
B8	187	BBI_5	B phase signal input of B video (fifth bit)
B7	188	GND	GND
B6	189	HDI	HD signal input
B5	190	RAI_4	A phase signal input of R video (fourth bit)
B4	191	GAI_9	A phase signal input of G video (ninth bit)
B3	192	GAI_3	A phase signal input of G video (third bit)
C3	193	GAI_2	A phase signal input of G video (second bit)
D3	194	VDDD33	3.3V power supply
E3	195	GAI_1	A phase signal input of G video (first bit)
F3	196	GAI_0	A phase signal input of G video (0 bit)
G3	197	NC	NC pin
H3	198	XSUSB_14	X-Drive control signal output
J3	199	VDDIO	3.3V power supply
K3	200	XSUSB_8	X-Drive control signal output

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

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● Pin Function (5/10)

Ball No.	No.	Pin Name	Function
L3	201	XSUSB_2	X-Drive control signal output
M3	202	XSUSA_14	X-Drive control signal output
N3	203	XSUSA_8	X-Drive control signal output
P3	204	VDDIO	3.3V power supply
R3	205	XSUSA_0	X-Drive control signal output
T3	206	TEST1	Test signal input (Not used)
U3	207	VSSLA	GND
V3	208	VSSLA	GND
W3	209	VSSLA	GND
Y3	210	VSSLA	GND
AA3	211	VSSLA	GND
AB3	212	VSSLA	GND
AC3	213	VSSLA	GND
AD3	214	VSSLA	GND
AD4	215	VSSLA	GND
AD5	216	VSSLA	GND
AD6	217	VSSLA	GND
AD7	218	VSSLA	GND
AD8	219	VSSLA	GND
AD9	220	VSSLA	GND
AD10	221	VSSLA	GND
AD11	222	VSSLA	GND
AD12	223	VSSLA	GND
AD13	224	VSSLA	GND
AD14	225	VSSLA	GND
AD15	226	VSSLA	GND
AD16	227	VSSLA	GND
AD17	228	VSSLA	GND
AD18	229	VSSLA	GND
AD19	230	VSSLA	GND
AD20	231	VSSLA	GND
AD21	232	VSSLA	GND
AD22	233	VSSLA	GND
AD23	234	VSSLA	GND
AD24	235	VSSLA	GND
AC24	236	VSSLA	GND
AB24	237	VSSLA	GND
AA24	238	VSSLA	GND
Y24	239	VSSLA	GND
W24	240	VSSLA	GND
V24	241	VSSLA	GND
U24	242	VSSLA	GND
T24	243	SDITDO	JTAG signal
R24	244	GPIO0_7	Microcomputer macro general-purpose port
P24	245	VDDIO	3.3V power supply
N24	246	YSUSA_0	Y-Drive control signal output
M24	247	YSUSA_6	Y-Drive control signal output
L24	248	YSUSA_12	Y-Drive control signal output
K24	249	YSUSB_0	Y-Drive control signal output
J24	250	VDDD33	3.3V power supply

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

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● Pin Function (6/10)

Ball No.	No.	Pin Name	Function
H24	251	YSUSB_8	Y-Drive control signal output
G24	252	NC	NC pin
F24	253	YSUSB_15	Y-Drive control signal output
E24	254	SCAN_3	Scan control signal output
D24	255	VDDD33	3.3V power supply
C24	256	SCAN_12	Scan control signal output
C23	257	SCAN_13	Scan control signal output
C22	258	SCAN_14	Scan control signal output
C21	259	SCAN_15	Scan control signal output
C20	260	VDDIO	3.3V power supply
C19	261	EXA8	Flash memory address bus
C18	262	EXA5	Flash memory address bus
C17	263	CLKD	CLK input (60MHz)
C16	264	VDDIO	3.3V power supply
C15	265	EXDIO_7	Flash memory data bus
C14	266	EXDIO_13	Flash memory data bus
C13	267	RBI_8	B phase signal input of R video (eighth bit)
C12	268	RBI_3	B phase signal input of R video (third bit)
C11	269	VDDIO	3.3V power supply
C10	270	GBI_6	B phase signal input of G video (sixth bit)
C9	271	GBI_0	B phase signal input of G video (0 bit)
C8	272	BBI_4	B phase signal input of B video (fourth bit)
C7	273	VDDIO	3.3V power supply
C6	274	RAI_9	A phase signal input of R video (ninth bit)
C5	275	RAI_3	A phase signal input of R video (third bit)
C4	276	GAI_8	A phase signal input of G video (eighth bit)
D4	277	GAI_7	A phase signal input of G video (seventh bit)
E4	278	GAI_6	A phase signal input of G video (sixth bit)
F4	279	GAI_5	A phase signal input of G video (fifth bit)
G4	280	VCMP	GND
H4	281	XSUSB_13	X-Drive control signal output
J4	282	XSUSB_11	X-Drive control signal output
K4	283	XSUSB_7	X-Drive control signal output
L4	284	XSUSB_1	X-Drive control signal output
M4	285	XSUSA_13	X-Drive control signal output
N4	286	XSUSA_7	X-Drive control signal output
P4	287	XSUSA_3	X-Drive control signal output
R4	288	ADRS_3	Address control signal output
T4	289	TESTAN	Test signal input (Not used)
U4	290	VDDLA	3.3V power supply
V4	291	VDDLA	3.3V power supply
W4	292	VDDLA	3.3V power supply
Y4	293	VDDLA	3.3V power supply
AA4	294	VDDLA	3.3V power supply
AB4	295	VDDLA	3.3V power supply
AC4	296	VDDLA	3.3V power supply
AC5	297	VDDLA	3.3V power supply
AC6	298	VDDLA	3.3V power supply
AC7	299	VDDLA	3.3V power supply
AC8	300	VDDLA	3.3V power supply

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (7/10)

Ball No.	No.	Pin Name	Function
AC8	300	VDDLA	3.3V power supply
AC9	301	VDDLA	3.3V power supply
AC10	302	VDDLA	3.3V power supply
AC11	303	VDDLA	3.3V power supply
AC12	304	VDDLA	3.3V power supply
AC13	305	VDDLA	3.3V power supply
AC14	306	VDDBG	3.3V power supply
AC15	307	VDDLA	3.3V power supply
AC16	308	VDDLA	3.3V power supply
AC17	309	VDDLA	3.3V power supply
AC18	310	VDDLA	3.3V power supply
AC19	311	VDDLA	3.3V power supply
AC20	312	VDDLA	3.3V power supply
AC21	313	VDDLA	3.3V power supply
AC22	314	VDDLA	3.3V power supply
AC23	315	VDDLA	3.3V power supply
AB23	316	VDDLA	3.3V power supplyv
AA23	317	VDDLA	3.3V power supply
Y23	318	VDDLA	3.3V power supply
W23	319	VDDLA	3.3V power supply
V23	320	VDDLA	3.3V power supply
U23	321	VDDLA	3.3V power supply
T23	322	SDITDI	JTAG signal
R23	323	GPIO0_6	Microcomputer macro general-purpose port
P23	324	GPIO0_2	Microcomputer macro general-purpose port
N23	325	YSUSA_1	Y-Drive control signal output
M23	326	YSUSA_7	Y-Drive control signal output
L23	327	YSUSA_13	Y-Drive control signal output
K23	328	YSUSB_1	Y-Drive control signal output
J23	329	YSUSB_5	Y-Drive control signal output
H23	330	YSUSB_9	Y-Drive control signal output
G23	331	VCMP	GND
F23	332	SCAN_0	Scan control signal output
E23	333	SCAN_4	Scan control signal output
D23	334	SCAN_7	Scan control signal output
D22	335	SCAN_8	Scan control signal output
D21	336	SCAN_9	Scan control signal output
D20	337	EXA11	Flash memory address bus
D19	338	EXA19	Flash memory address bus
D18	339	EXA4	Flash memory address bus
D17	340	EXDIO_0	Flash memory data bus
D16	341	EXDIO_4	Flash memory data bus
D15	342	EXDIO_8	Flash memory data bus
D14	343	EXDIO_14	Flash memory data bus
D13	344	RBI_7	B phase signal input of R video (seventh bit)
D12	345	RBI_2	B phase signal input of R video (second bit)
D11	346	GBI_9	B phase signal input of G video (ninth bit)
D10	347	GBI_5	B phase signal input of G video (fifth bit)
D9	348	BBI_9	B phase signal input of B video (ninth bit)
D8	349	BBI_3	B phase signal input of B video (tenth bit)

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (8/10)

Ball No.	No.	Pin Name	Function
D7	350	DEI	DE signal input
D6	351	RAI_8	A phase signal input of R video (eighth bit)
D5	352	RAI_2	A phase signal input of R video (second bit)
E5	353	RAI_1	A phase signal input of R video (first bit)
F5	354	RAI_0	A phase signal input of R video (0 bit)
G5	355	BAI_0	A phase signal input of B video (0 bit)
H5	356	VSS15	GND
J5	357	VDDHR	3.3V power supply
K5	358	XSUSB_6	X-Drive control signal output
L5	359	VSSD15	GND
M5	360	XSUSA_12	X-Drive control signal output
N5	361	XSUSA_6	X-Drive control signal output
P5	362	VSS15	GND
R5	363	ADRS_2	Address control signal output
T5	364	TESTBN	Test signal input (Not used)
U5	365	VSSL15	GND
V5	366	VSSLA	GND
W5	367	VSSLA	GND
Y5	368	VSSL15	GND
AA5	369	VDDLP	3.3V power supply
AB5	370	VSSL15	GND
AB6	371	VSSLA	GND
AB7	372	VSSLA	GND
AB8	373	VSSL15	GND
AB9	374	VSSLA	GND
AB10	375	VSSLA	GND
AB11	376	VSSL15	GND
AB12	377	VSSLA	GND
AB13	378	VSSLA	GND
AB14	379	REFRIN	Reference current generation
AB15	380	VSSBG	GND
AB16	381	VSSL15	GND
AB17	382	VSSLA	GND
AB18	383	VSSLA	GND
AB19	384	VSSL15	GND
AB20	385	VSSLA	GND
AB21	386	VSSLA	GND
AB22	387	VSSLA	GND
AA22	388	VDDLA	3.3V power supply
Y22	389	VSSL15	GND
W22	390	VSSLA	GND
V22	391	VSSLA	GND
U22	392	VSSL15	GND
T22	393	SDITMS	JTAG signal
R22	394	GPIO0_5	Microcomputer macro general-purpose port
P22	395	VSS15	GND
N22	396	YSUSA_2	Y-Drive control signal output
M22	397	YSUSA_8	Y-Drive control signal output
L22	398	VSSD15	GND
K22	399	YSUSB_2	Y-Drive control signal output

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (9/10)

Ball No.	No.	Pin Name	Function
J22	400	VDDHL	3.3V power supply
H22	401	VSSD15	GND
G22	402	YSUSB_12	Y-Drive control signal output
F22	403	SCAN_1	Scan control signal output
E22	404	SCAN_5	Scan control signal output
E21	405	SCAN_6	Scan control signal output
E20	406	VSS15	GND
E19	407	EXA18	Flash memory address bus
E18	408	EXA3	Flash memory address bus
E17	409	EXDIO_1	Flash memory data bus
E16	410	VSS15	GND
E15	411	EXDIO_9	Flash memory data bus
E14	412	EXDIO_15	Flash memory data bus
E13	413	RBI_6	B phase signal input of R video (sixth bit)
E12	414	CLKS	CLK input (85MHz)
E11	415	VSS15	GND
E10	416	GBI_4	B phase signal input of G video (fourth bit)
E8	418	BBI_2	B phase signal input of B video (second bit)
E9	417	BBI_8	B phase signal input of B video (eighth bit)
E7	419	VSS15	GND
E6	420	RAI_7	A phase signal input of R video (seventh bit)
F6	421	RAI_6	A phase signal input of R video (sixth bit)
G6	422	APL_DT	APL value trigger input
H6	423	VDD15	1.5V power supply
J6	424	VBB	VBB power monitor in the DRAM
K6	425	XSUSB_5	X-Drive control signal output
L6	426	VDDD15	1.5V power supply
M6	427	XSUSA_11	X-Drive control signal output
N6	428	XSUSA_5	X-Drive control signal output
P6	429	VDD15	1.5V power supply
R6	430	ADRS_1	Address control signal output
T6	431	TESTCN	Test signal input (Not used)
U6	432	VDDL15	1.5V power supply
V6	433	VDDLA	3.3V power supply
W6	434	VDDLA	3.3V power supply
Y6	435	VDDL15	1.5V power supply
AA6	436	VDDLA	3.3V power supply
AA7	437	VDDLA	3.3V power supply
AA8	438	VDDL15	1.5V power supply
AA9	439	VDDLA	3.3V power supply
AA10	440	VDDLA	3.3V power supply
AA11	441	VDDL15	1.5V power supply
AA12	442	VDDLA	3.3V power supply
AA13	443	VDDLA	3.3V power supply
AA14	444	VDDLA	3.3V power supply
AA15	445	VDDLA	3.3V power supply
AA16	446	VDDL15	1.5V power supply
AA17	447	VDDLA	3.3V power supply
AA18	448	VDDLA	3.3V power supply
AA19	449	VDDL15	1.5V power supply

■ PEG054A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

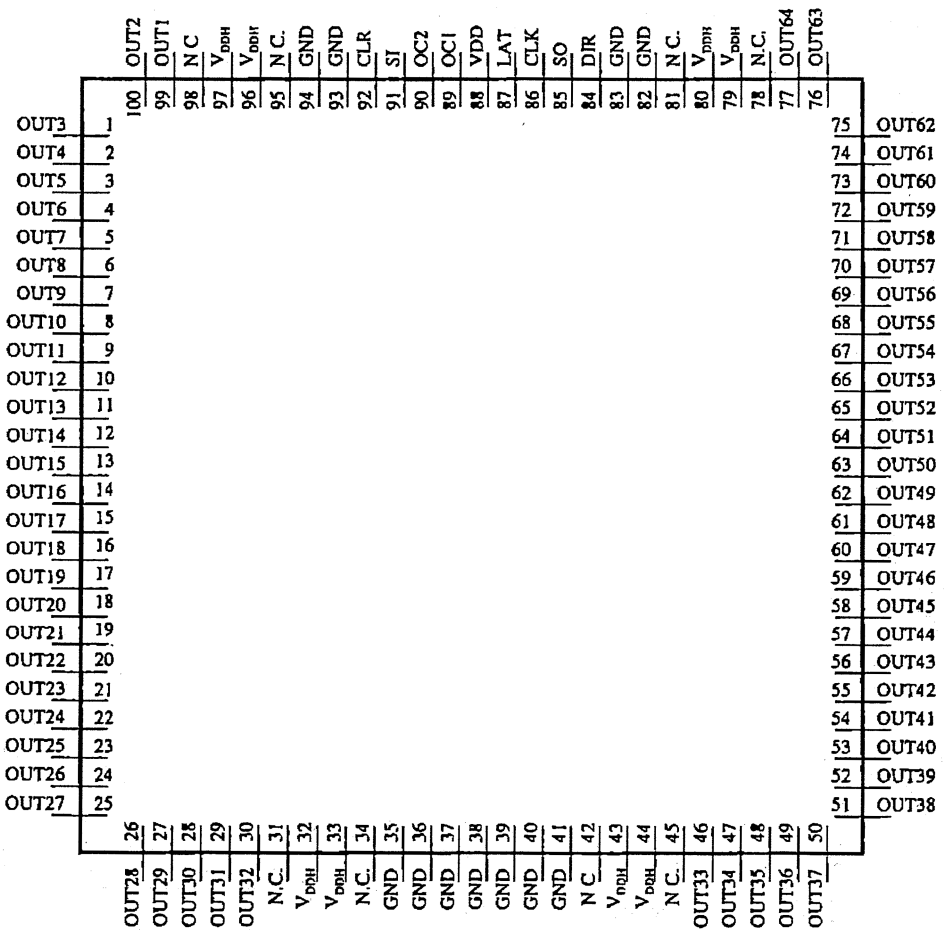
● Pin Function (10/10)

Ball No.	No.	Pin Name	Function
AA20	450	VDDLA	3.3V power supply
AA21	451	VDDLA	3.3V power supply
Y21	452	VDDL15	1.5V power supply
W21	453	VDDLA	3.3V power supply
V21	454	VDDLA	3.3V power supply
U21	455	VDDL15	1.5V power supply
T21	456	SDITCK	JTAG signal
R21	457	GPIO0_4	Microcomputer macro general-purpose port
P21	458	VDD15	1.5V power supply
N21	459	YSUSA_3	Y-Drive control signal output
M21	460	YSUSA_9	Y-Drive control signal output
L21	461	VDDD15	1.5V power supply
K21	462	YSUSB_3	Y-Drive control signal output
J21	463	VBB	VBB power monitor in the DRAM
H21	464	VDDD15	1.5V power supply
G21	465	YSUSB_13	Y-Drive control signal output
F21	466	SCAN_2	Scan control signal output
F20	467	VDD15	1.5V power supply
F19	468	EXA17	Flash memory address bus
F18	469	EXA2	Flash memory address bus
F17	470	EXDIO_2	Flash memory data bus
F16	471	VDD15	1.5V power supply
F15	472	EXDIO_10	Flash memory data bus
F14	473	TRNSEND_I	NC pin
F13	474	VDD15	1.5V power supply
F12	475	RBI_1	B phase signal input of R video (first bit)
F11	476	VDD15	1.5V power supply
F10	477	GBI_3	B phase signal input of G video (third bit)
F9	478	BBI_7	B phase signal input of B video (seventh bit)
F8	479	BBI_1	B phase signal input of B video (first bit)
F7	480	VDD15	1.5V power supply

■ AN16021A-K (50 SCAN A ASSY : IC3001 - IC3006)
(50 SCAN B ASSY : IC3201 - IC3206)

• **Mod Ucom**

● **Pin Arrangement (Top view)**



● Pin Function (1/2)

Pin No.	Pin Name	Type	Discription
1	OUT3	Output	High-voltage push-pull output pin
2	OUT4		
3	OUT5		
4	OUT6		
5	OUT7		
6	OUT8		
7	OUT9		
8	OUT10		
9	OUT11		
10	OUT12		
11	OUT13		
12	OUT14		
13	OUT15		
14	OUT16		
15	OUT17		
16	OUT18		
17	OUT19		
18	OUT20		
19	OUT21		
20	OUT22		
21	OUT23		
22	OUT24		
23	OUT25		
24	OUT26		
25	OUT27		
26	OUT28		
27	OUT29		
28	OUT30		
29	OUT31		
30	OUT32		
31	NC	-	Not connected
32	VDDH	Supply	High-voltage circuit supply pin
33	VDDH	Supply	High-voltage circuit supply pin
34	NC	-	Not connected
35	GND	Ground	GND pin
36	GND		
37	GND		
38	GND		
39	GND		
40	GND		
41	GND		
42	NC	-	Not connected
43	VDDH	Supply	High-voltage circuit supply pin
44	VDDH	Supply	High-voltage circuit supply pin
45	NC	-	Not connected
46	OUT33	Output	High-voltage push-pull output pin
47	OUT34		
48	OUT35		
49	OUT36		
50	OUT37		
51	OUT38		
52	OUT39		
53	OUT40		
54	OUT41		
55	OUT42		
56	OUT43		
57	OUT44		
58	OUT45		

● Pin Function (2/2)

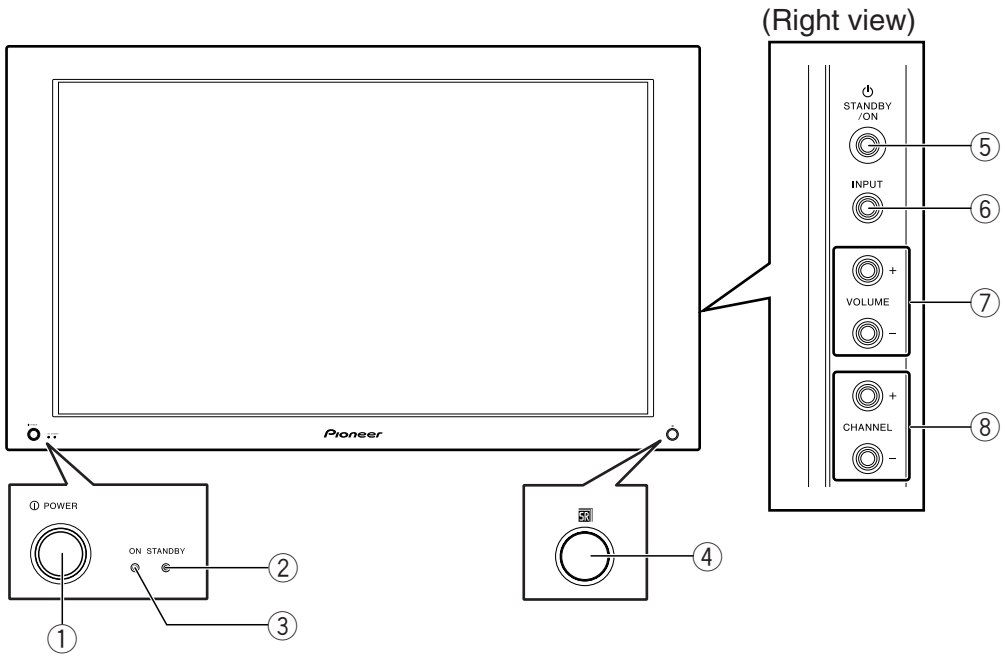
Pin No.	Pin Name	Type	Discription
59	OUT46	Output	High-voltage push-pull output pin
60	OUT47		
61	OUT48		
62	OUT49		
63	OUT50		
64	OUT51		
65	OUT52		
66	OUT53		
67	OUT54		
68	OUT55		
69	OUT56		
70	OUT57		
71	OUT58		
72	OUT59		
73	OUT60		
74	OUT61		
75	OUT62		
76	OUT63		
77	OUT64		
78	NC	-	Not connected
79	DDDH	Supply	High-voltage circuit supply pin
80	DDDH	Supply	High-voltage circuit supply pin
81	NC	-	Not connected
82	GND	Ground	GND pin
83	GND	Ground	GND pin
84	DIR	Input	Setup pin of sift register sift direction L: Shift into reverse (SO → SI) H: Shift forward (SI → SO)
85	SO	Input	Serial data input/output pin
86	CLK	Input	Serial clock input pin Fetch SI or SO data to sift register by CLK rise edge
87	LAT	Input	LAT data input pin L: Transfer shft register data to output latch H: Hold data to output latch
88	VDD	Supply	Logic supply pin
89	OC1	Input	Output control pin Control output according to the right truth value table
90	OC2		
91	SI	SI	Input/OutputSerial data input/output pin
92	CLR		All output reset pin CLR pin: L → Normal operation CLR pin: H → All output High
93	GND	Ground	GND pin
94	GND	Ground	GND pin
95	NC	-	Not connected
96	VDDH	Supply	High-voltage circuit supply pin
97	VDDH	Supply	High-voltage circuit supply pin
98	NC	-	Not connected
99	OUT1	Output	High-voltage push-pull output pin
100	OUT2	Output	High-voltage push-pull output pin

OC1	OC2	OUT
L	L	ALL Hi-Z
L	H	DATA
H	L	ALL L
H	H	ALL H

8. PANEL FACILITIES

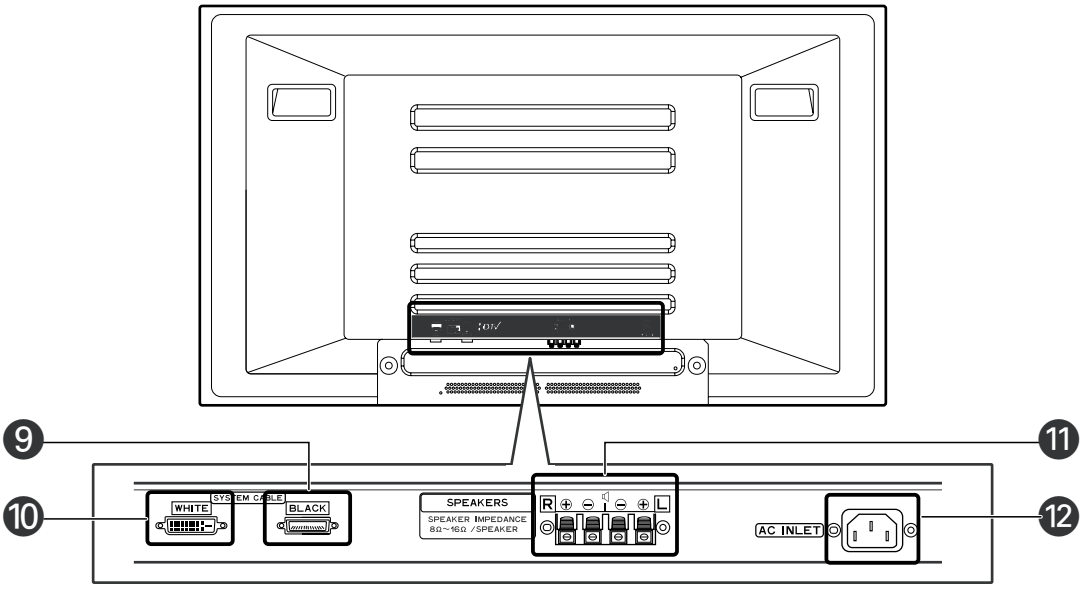
■ PLASMA DISPLAY

• Front view



① POWER button
② STANDBY indicator
③ POWER ON indicator
④ Remote control sensor
⑤ STANDBY/ON button
⑥ INPUT button
⑦ VOLUME +/– buttons
⑧ CHANNEL +/– buttons

• Rear view



The terminals are facing down.

❾ SYSTEM CABLE terminal (BLACK)
❿ SYSTEM CABLE terminal (WHITE)
⓫ SPEAKER (right/left) terminals
⓬ AC INLET terminal